



**ENVIRONMENTAL PROTECTION AGENCY**

**[EPA-HQ-OAR-2008-0691; FRL-9901-18-OAR]**

**California State Nonroad Engine Pollution Control Standards; Off-road Compression Ignition Engines – In-Use Fleets; Notice of Decision**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of Decision.

**SUMMARY:** The Environmental Protection Agency (EPA) is granting the California Air Resources Board's (CARB's) request for authorization of California regulations applicable to in-use fleets that operate off-road (nonroad or NR), diesel-fueled (compression-ignition or CI) vehicles with engines 25 horsepower and greater. The regulations require such fleets to meet fleet average emissions standards for oxides of nitrogen (NO<sub>x</sub>) and particulate matter (PM), or, alternatively, to comply with best available control technology (BACT) requirements for the vehicles in those fleets. This decision is issued under the authority of the Clean Air Act (CAA or Act).

**DATES:** Petitions for review must be filed by [INSERT DATE SIXTY DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]

**ADDRESSES:** EPA has established a docket for this action under Docket ID EPA-HQ-OAR-2008-0691. All documents relied upon in making this decision, including those submitted to EPA by CARB, are contained in the public docket. Publicly available docket materials are available either electronically through [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Air and Radiation Docket in the EPA Headquarters Library, EPA West Building, Room 3334, located at 1301 Constitution Avenue NW, Washington, DC. The Public Reading Room is open to the public on all federal government working days from 8:30 a.m. to 4:30 p.m.; generally, it is open Monday through Friday, excluding holidays. The telephone number for the Reading Room

is (202) 566-1744. The Air and Radiation Docket and Information Center's Web site is <http://www.epa.gov/oar/docket.html>. The electronic mail (email) address for the Air and Radiation Docket is: *a-and-r-Docket@epa.gov*, the telephone number is (202) 566-1742, and the fax number is (202) 566-9744. An electronic version of the public docket is available through the federal government's electronic public docket and comment system. You may access EPA dockets at <http://www.regulations.gov>. After opening the *www.regulations.gov* web site, enter EPA-HQ-OAR-2008-0691 in the "Enter Keyword or ID" fill-in box to view documents in the record. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute.

EPA's Office of Transportation and Air Quality (OTAQ) maintains a web page that contains general information on its review of California waiver requests. Included on that page are links to prior waiver *Federal Register* notices, some of which are cited in today's notice; the page can be accessed at <http://www.epa.gov/otaq/cafr.htm>.

**FOR FURTHER INFORMATION CONTACT:** David Dickinson, Attorney-Advisor, Compliance Division, Office of Transportation and Air Quality, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue (6405J), NW, Washington, DC 20460. Telephone: (202) 343-9256. Email: [Dickinson.David@epa.gov](mailto:Dickinson.David@epa.gov).

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## **I. Executive Summary**

Today, the Environmental Protection Agency (EPA) is granting a California Air Resources Board (CARB) request for authorization of regulations designed to reduce PM and NO<sub>x</sub> emissions from in-use nonroad diesel engines. The California In-Use Off-Road Diesel-Fueled Fleets Regulation (Fleet Requirements) applies to fleets with NR CI vehicles or equipment greater than 25 horsepower. The regulation takes effect beginning as early as 2014,

depending on fleet size. It requires fleet operators to meet a progressively more stringent combined PM and NO<sub>x</sub> standard, or to reduce emissions through technology upgrades such as retrofit or replacement. Today's decision pertains to CARB's request of March 1, 2012, for authorization of the Fleet Requirements as amended in 2010.

The legal framework for this decision stems from the provisions first adopted by Congress in 1967, and later modified in 1977, with respect to state emission requirements for motor vehicles and motor vehicle engines; and from similar language adopted by Congress in 1990 with respect to preemption of state emission requirements for certain nonroad vehicles and equipment. Section 209(e)(2) of the Act, 42 U.S.C. 7543(e)(2), specifies that EPA must authorize California to adopt and enforce covered nonroad standards if California determines that its standards are, in the aggregate, at least as protective of the public health and welfare as applicable Federal standards, *unless* EPA makes one of three findings specified under the Clean Air Act: (1) that California's protectiveness finding is arbitrary and capricious; (2) that California does not need such California standards to meet compelling and extraordinary conditions; or (3) that California standards and accompanying enforcement procedures are not consistent with this section. As explained below, EPA interprets the statutory language "consistent with this section" to mean consistent with section 209 (e.g. section 209(a), section 209(e)(1), and section 209(b)(1)(C)) of the Act. EPA's role upon receiving an authorization request is to determine whether it is appropriate to make any of these three specified findings. Opponents of authorization bear the burden of proving that at least one of the three bases for denial of authorization has been satisfied. If the Agency cannot make at least one of the three findings, then it must grant the requested authorization. EPA has evaluated CARB's request with

regard to each of these three authorization criteria, in light of the evidence in the public record, and is granting CARB its authorization request as required under the Clean Air Act.

This Notice of Decision provides a full discussion of EPA's evaluation of each of the three criteria, including EPA's evaluation of the record and its determination that those opposing the authorization have not met their burden of proof with regard to any of the three criteria in section 209(e)(2)(A).

## **II. Background**

### **A. *California's Nonroad CI In-Use Fleet Requirements***

CARB initially approved the Fleet Requirements on July 26, 2007. CARB subsequently amended the regulation after the Board conducted hearings in December 2008, January 2009, July 2009, and most recently in December 2010. As explained below, the December 2010 amendments significantly modified the regulation's compliance dates and in-use performance requirements.

The Fleet Requirements establish statewide in-use performance standards applicable to any person, business, or government agency that owns and operates in-use nonroad diesel vehicles in California with a maximum power of 25 horsepower (hp) or greater. The regulation applies to engines that are used to provide motive power, and in some cases auxiliary power, to nonroad vehicles, which are defined as vehicles that (1) cannot be registered and driven safely on-road, and (2) are not implements of husbandry or recreational off-highway vehicles.

The Fleet Requirements phase in according to fleet size as defined by total fleet horsepower. Requirements begin for large fleets (greater than 5,000 hp) in 2014; for medium fleets (2500 - 5,000 hp) in 2017; and for small fleets, 2500 hp or less, in 2019. The regulation establishes two general compliance pathways. Fleets may either (1) meet fleet average emission

targets (based on the combined horsepower of the vehicles in the fleet) that become increasingly stringent over a ten-year period, or (2) satisfy best available control technology (BACT) requirements within a given compliance year. The BACT pathway requires fleets to retire, repower, designate for low use, and/or retrofit a certain percentage of the fleet's total horsepower each year. Fleets demonstrate compliance for a given year by taking a sufficient number of such actions in the prior year or by utilizing previously earned BACT credits associated with these actions. For large fleets, the annual BACT rates (demonstrated either through utilization of credits or through action taken during the previous calendar year) start out at 4.8 percent of the fleet's total horsepower in 2014 and increase to 8 percent for each year from 2015 through 2017, and to 10 percent for each year from 2018 through 2023. For medium fleets, the annual BACT rate is 8 percent in 2017, increasing to 10 percent for each year from 2018 through 2023. Small fleets have an annual BACT rate of 10 percent for each year from 2019 through 2028. After the final compliance year, all fleets must continue to either (1) meet the fleet average emission target rate for the final target year, or (2) satisfy the applicable final annual BACT compliance rate (e.g. 10 percent) each year until the fleet comes into compliance with the fleet average emission target. The Fleet Requirements also restrict fleets from adding older dirtier vehicles to their vehicle inventories.

The regulation EPA is authorizing in this decision reflects amendments that CARB adopted in 2010. Compared to the original Fleet Requirements, the 2010 amendments delay the original compliance schedule by four years. The 2010 amendments also simplified the annual requirements so that in each compliance year a fleet must only meet a single emissions target – a combined NO<sub>x</sub> plus PM standard – rather than separate targets for each of these two pollutants. The amendments reduced the annual BACT requirements from a 28 percent turnover and retrofit

requirement in the prior version of the regulation, to a combined 4.8 percent to 10 percent requirement (as outlined above). Finally, the amendments removed mandatory retrofitting requirements so that retrofit is now a compliance option under the BACT pathway rather than a mandate. Additional information about the original and amended Fleet Requirements is provided below in the section discussing the consistency of the Fleet Requirements with section 202(a) of the Act.

*B. Clean Air Act Nonroad Engine and Vehicle Authorizations*

Section 209(e)(1) of the Act permanently preempts any state, or political subdivision thereof, from adopting or attempting to enforce any standard or other requirement relating to the control of emissions for certain *new* nonroad engines or vehicles.<sup>1</sup> For all other nonroad engines (including “non-new” engines), states generally are preempted from adopting and enforcing standards and other requirements relating to the control of emissions, except that section 209(e)(2)(A) of the Act requires EPA, after notice and opportunity for public hearing, to authorize California to adopt and enforce such regulations unless EPA makes one of three enumerated findings. Specifically, EPA must deny authorization if the Administrator finds that (1) California’s protectiveness determination (that California standards will be, in the aggregate, as protective of public health and welfare as applicable federal standards) is arbitrary and capricious, (2) California does not need such standards to meet compelling and extraordinary conditions, or (3) the California standards and accompanying enforcement procedures are not consistent with section 209 of the Act. Other states with state air quality implementation plans

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<sup>1</sup> States are expressly preempted from adopting or attempting to enforce any standard or other requirement relating to the control of emissions from new nonroad engines which are used in construction equipment or vehicles or used in farm equipment or vehicles and which are smaller than 175 horsepower. Such express preemption under section 209(e)(1) of the Act also applies to new locomotives or new engines used in locomotives.

may also adopt and enforce such regulations if the standards are identical to California's standards.

On July 20, 1994, EPA promulgated a rule interpreting the three criteria set forth in section 209(e)(2)(A) that EPA must consider before granting any California authorization request for nonroad engine or vehicle emission standards.<sup>2</sup> EPA revised these regulations in 1997.<sup>3</sup> As stated in the preamble to the 1994 rule, EPA historically has interpreted the consistency inquiry under the third criterion outlined above (set forth in section 209(e)(2)(A)(iii)) to require, at minimum, that California standards and enforcement procedures be consistent with section 209(a), section 209(e)(1), and section 209(b)(1)(C) (as EPA has interpreted that subsection in the context of section 209(b) motor vehicle waivers) of the Act.<sup>4</sup>

In order to be consistent with section 209(a), California's nonroad standards and enforcement procedures must not apply to new motor vehicles or new motor vehicle engines. To be consistent with section 209(e)(1), California's nonroad standards and enforcement procedures must not attempt to regulate engine categories that are permanently preempted from state regulation. To determine consistency with section 209(b)(1)(C), EPA typically reviews nonroad authorization requests under the same "consistency" criteria that are applied to motor vehicle waiver requests under section 209(b)(1)(C). That provision provides that the Administrator shall not grant California a motor vehicle waiver if she finds that California "standards and accompanying enforcement procedures are not consistent with section 202(a)" of the Act. Previous decisions granting waivers and authorizations have noted that state standards and enforcement procedures will be found to be inconsistent with section 202(a) if: (1) there is

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<sup>2</sup> 59 FR 36969 (July 20, 1994).

<sup>3</sup> See 62 FR 67733 (December 30, 1997). The applicable regulations are now found in 40 CFR part 1074, subpart B, § 1074.105.

<sup>4</sup> See 59 FR 36969 (July 20, 1994).



inadequate lead time to permit the development of the necessary technology, giving appropriate consideration to the cost of compliance within that time, or (2) the federal and state testing procedures impose inconsistent certification requirements.

In light of the similar language of sections 209(b) and 209(e)(2)(A), EPA has analyzed requests for California authorization of standards for nonroad vehicles or engines under section 209(e)(2)(A) using the same principles that it has historically applied in analyzing requests for waivers of preemption for new motor vehicle or new motor vehicle engine standards under section 209(b).<sup>5</sup> These principles include, among other things, that EPA should limit its inquiry to the three specific authorization criteria identified in section 209(e)(2)(A),<sup>6</sup> and that EPA will give substantial deference to the policy judgments California has made in adopting its regulations. In previous waiver decisions, EPA has stated that Congress intended EPA's review of California's decision-making be narrow. EPA has rejected arguments that are not specified in the statute as grounds for denying a waiver:

The law makes clear that the waiver requests cannot be denied unless the specific findings designated in the statute can properly be made. The issue of whether a proposed California requirement is likely to result in only marginal improvement in air quality not commensurate with its costs or is otherwise an arguably unwise exercise of regulatory power is not legally pertinent to my decision under section 209, as long as the California requirement is consistent with section 202(a) and is more stringent than applicable Federal requirements in the sense that it may result in some further reduction in air pollution in California.<sup>7</sup>

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<sup>5</sup> See *Engine Manufacturers Association v. EPA*, 88 F.3d 1075 (D.C. Cir. 1996). "... EPA was within the bounds of permissible construction in analogizing §209(e) on nonroad sources to §209(a) on motor vehicles."

<sup>6</sup> See EPA's Final 209(e) rulemaking at 59 FR 36969, 36983 (July 20, 1994).

<sup>7</sup> 36 FR 17458 (Aug. 31, 1971). Note that the more stringent standard expressed here, in 1971, was superseded by the 1977 amendments to section 209, which established that California must determine that its standards are, in the aggregate, at least as protective of public health and welfare as applicable Federal standards. In the 1990 amendments to section 209, Congress established section 209(e) and similar language in section 209(e)(1)(i) pertaining to California's nonroad emission standards which California must determine to be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards.

This principle of narrow EPA review has been upheld by the U.S. Court of Appeals for the District of Columbia Circuit.<sup>8</sup> Thus, EPA's consideration of all the evidence submitted concerning an authorization decision is circumscribed by its relevance to those questions that may be considered under section 209(e)(2)(A).

*C. Deference to California*

In previous waiver decisions, EPA has recognized that the intent of Congress in creating a limited review based on the section 209(b)(1) criteria was to ensure that the federal government did not second-guess state policy choices. As the agency explained in one prior waiver decision:

It is worth noting \* \* \* I would feel constrained to approve a California approach to the problem which I might also feel unable to adopt at the federal level in my own capacity as a regulator. The whole approach of the Clean Air Act is to force the development of new types of emission control technology where that is needed by compelling the industry to "catch up" to some degree with newly promulgated standards. Such an approach \* \* \* may be attended with costs, in the shape of reduced product offering, or price or fuel economy penalties, and by risks that a wider number of vehicle classes may not be able to complete their development work in time. Since a balancing of these risks and costs against the potential benefits from reduced emissions is a central policy decision for any regulatory agency under the statutory scheme outlined above, I believe I am required to give very substantial deference to California's judgments on this score.<sup>9</sup>

Similarly, EPA has stated that the text, structure, and history of the California waiver provision clearly indicate both a congressional intent and appropriate EPA practice of leaving the decision on "ambiguous and controversial matters of public policy" to California's judgment.<sup>10</sup> This interpretation is supported by relevant discussion in the House Committee Report for the 1977 amendments to the Clean Air Act.<sup>11</sup> Congress had the opportunity through the 1977 amendments to restrict the preexisting waiver provision, but elected instead to expand

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<sup>8</sup> See, e.g., *Motor and Equip. Mfrs Assoc. v. EPA*, 627 F.2d 1095 (D.C. Cir. 1979) ("MEMA I").

<sup>9</sup> 40 FR 23102, 23103-23104 (May 28, 1975).

<sup>10</sup> *Id.* at 23104; 58 FR 4166 (January 13, 1993).

<sup>11</sup> *MEMA I*, 627 F.2d at 1110 (citing H.R. Rep. No. 294, 95<sup>th</sup> Cong., 1<sup>st</sup> Sess. 301-302 (1977)).

California's flexibility to adopt a complete program of motor vehicle emission controls. The report explains that the amendment is intended to ratify and strengthen the preexisting California waiver provision and to affirm the underlying intent of that provision, that is, to afford California the broadest possible discretion in selecting the best means to protect the health of its citizens and the public welfare.<sup>12</sup>

*D. Burden and Standard of Proof*

As the U.S. Court of Appeals for the D.C. Circuit has made clear in *MEMA I*, opponents of a waiver request by California bear the burden of showing that the statutory criteria for a denial of the request have been met:

[T]he language of the statute and its legislative history indicate that California's regulations, and California's determinations that they must comply with the statute, when presented to the Administrator are presumed to satisfy the waiver requirements and that the burden of proving otherwise is on whoever attacks them. California must present its regulations and findings at the hearing and thereafter the parties opposing the waiver request bear the burden of persuading the Administrator that the waiver request should be denied.<sup>13</sup>

The Administrator's burden, on the other hand, is to make a reasonable evaluation of the information in the record in coming to the waiver decision. As the court in *MEMA I* stated:

'here, too, if the Administrator ignores evidence demonstrating that the waiver should not be granted, or if he seeks to overcome that evidence with unsupported assumptions of his own, he runs the risk of having his waiver decision set aside as 'arbitrary and capricious.'''<sup>14</sup> Therefore, the Administrator's burden is to act 'reasonably.'''<sup>15</sup>

With regard to the standard of proof, the court in *MEMA I* explained that the Administrator's role in a section 209 proceeding is to:

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<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> *Id.* at 1126.

<sup>15</sup> *Id.* at 1126.

consider all evidence that passes the threshold test of materiality and \* \* \* thereafter assess such material evidence against a standard of proof to determine whether the parties favoring a denial of the waiver have shown that the factual circumstances exist in which Congress intended a denial of the waiver.<sup>16</sup>

In that decision, the court considered the standards of proof under section 209 for the two findings related to granting a waiver for an “accompanying enforcement procedure.” Those findings involve: (1) whether the enforcement procedures impact California’s prior protectiveness determination for the associated standards, and (2) whether the procedures are consistent with section 202(a). The principles set forth by the court, however, are similarly applicable to an EPA review of a request for a waiver of preemption for a standard. The court instructed that “the standard of proof must take account of the nature of the risk of error involved in any given decision, and it therefore varies with the finding involved. We need not decide how this standard operates in every waiver decision.”<sup>17</sup>

With regard to the protectiveness finding, the court upheld the Administrator’s position that, to deny a waiver, there must be “clear and compelling evidence” to show that proposed enforcement procedures undermine the protectiveness of California’s standards.<sup>18</sup> The court noted that this standard of proof also accords with the congressional intent to provide California with the broadest possible discretion in setting regulations it finds protective of the public health and welfare.<sup>19</sup>

With respect to the consistency finding, the court did not articulate a standard of proof applicable to all proceedings, but found that the opponents of the waiver were unable to meet their burden of proof even if the standard were a mere preponderance of the evidence. Although *MEMA I* did not explicitly consider the standards of proof under section 209 concerning a waiver

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<sup>16</sup> *Id.* at 1122.

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

request for “standards,” as compared to a waiver request for accompanying enforcement procedures, there is nothing in the opinion to suggest that the court’s analysis would not apply with equal force to such determinations. EPA’s past waiver decisions have consistently made clear that: “[E]ven in the two areas concededly reserved for Federal judgment by this legislation—the existence of ‘compelling and extraordinary’ conditions and whether the standards are technologically feasible—Congress intended that the standards of EPA review of the State decision to be a narrow one.”<sup>20</sup>

*E. EPA’s Administrative Process in Consideration of California’s Nonroad CI In-Use Fleet Requirements*

EPA has conducted three separate public notice and comment periods associated with three successive versions of CARB’s NR CI in-use Fleet Requirements.

On August 8, 2008, CARB requested that EPA authorize California to enforce its original In-Use Off-Road Diesel-Fueled Fleets regulation adopted at its July 26, 2007 public hearing.<sup>21</sup> CARB’s original regulations required fleets that operate nonroad, diesel fueled equipment with engines 25 hp and greater to meet separate fleet average emission standards for NO<sub>x</sub> and PM, respectively. Alternatively, the regulations required the vehicles in those fleets to comply with BACT requirements. Based on this request, EPA noticed and conducted a public hearing on October 27, 2008, and provided an opportunity to submit written comment through December 19, 2008.<sup>22</sup> CARB amended the regulations between December 2008 and mid-2009. On February 11, 2010 CARB requested that EPA grant California authorization to enforce its In-Use

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<sup>20</sup> See, e.g., 40 FR 21102-22103 (May 28, 1975).

<sup>21</sup> See CARB Resolution 07–19) and subsequently modified after supplemental public comment by CARB’s Executive Officer by the In-Use Regulation in Executive Order R–08– 002 on April 4, 2008 (these regulations are codified at Title 13, California Code of Regulations sections 2449 through 2449.3).

<sup>22</sup> See 73 FR 58585 (October 7, 2008) and 73 FR 67509 (November 14, 2008).

Off- Road Diesel-Fueled Fleets regulation as amended.<sup>23</sup> Based on CARB's February 11, 2010 request, EPA noticed and conducted a public hearing on April 14, 2010, and provided an opportunity to submit written comment through May 18, 2010.<sup>24</sup>

CARB again amended its regulations in December 2010 and these amendments were formally adopted in California on December 14, 2011 – resulting in the current version of the Fleet Requirements which are the subject of this authorization decision. On March 1, 2012, CARB submitted a request that EPA grant California authorization to enforce its Fleet Requirements as most recently amended (Authorization Request).<sup>25</sup> Based on CARB's Authorization Request, on August 21, 2012 EPA invited comment on whether (a) CARB's determination that its standards, in the aggregate, are at least as protective of public health and welfare as applicable federal standards is arbitrary and capricious, (b) California needs separate standards to meet compelling and extraordinary conditions, and (c) California's standards and accompanying enforcement procedures are consistent with section 209 of the Act.<sup>26</sup> The *Federal Register* notice stated that EPA would only consider testimony and comment submitted in response to the current request for comment because the CARB regulations were substantially amended in December 2010.<sup>27</sup> EPA conducted a hearing on the Authorization Request on

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<sup>23</sup> CARB's amendments included those of December 2008 (and formally adopted in California on October 19, 2009); January 2009 (and formally adopted in California on December 31, 2009); and, a certain subset of amendments adopted by the Board in July 2009 in response to California Assembly Bill 8 2X (and formally adopted on December 3, 2009). In CARB's February 11, 2010 request letter to EPA it also noted additional amendments adopted in July 2009 and not yet formally adopted by California's Office of Administrative Law. Once this last subset of amendments was formally adopted CARB planned to submit them to EPA for subsequent consideration.

<sup>24</sup> See 75 FR 11880 (March 12, 2010).

<sup>25</sup> See EPA-HQ-OAR-2008-0691-0270.

<sup>26</sup> 77 FR 50500 (August 21, 2012).

<sup>27</sup> "Therefore, EPA will not be considering oral testimony or written comments based on the prior *Federal Register* notices, since CARB's December 2010 amendments are likely to affect many of these prior comments. To the extent any entity believes that its prior comments remain pertinent then EPA is requiring such comments be resubmitted or incorporated into new comments." *Id.* at 50502. EPA did not receive any adverse comment or suggestions that it is inappropriate to exclude comments submitted prior to the August 12, 2012 *Federal Register* notice. As noted by AGC, "While the Clean Air Act has not changed, and the questions that EPA must address are one and the same, the rule that CARB now seeks the authority to enforce is very different from the rule that CARB

September 20, 2012, in Washington, DC.<sup>28</sup> The written comment period closed on October 22, 2012.<sup>29</sup> In addition, to provide further opportunity to submit direct verbal comment for affected parties who could not participate in the public hearing, EPA conducted an informal teleconference on October 19, 2012.<sup>30</sup>

### III. Discussion

#### A. California's Protectiveness Determination

Section 209(e)(2)(A)(i) of the Act sets forth the first of the three criteria governing a request for authorization of relevant standards – providing that EPA cannot grant the request if the agency finds that California was arbitrary and capricious in its determination that California standards will be, in the aggregate, at least as protective of public health and welfare as applicable federal standards.<sup>31</sup>

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originally submitted to EPA.” See EPA’s Hearing transcript at 84 (EPA-HQ-OAR-2008-0691-0298). CARB reincorporated by reference all of its prior submissions regarding the Fleet Requirements.

<sup>28</sup> The written transcript of this hearing is at EPA-HQ-OAR-2008-0691-0298 (Hearing Transcript). EPA received testimony from CARB, the Pacific Legal Foundation (PLF), the American Road and Transportation Builders Association (ARTBA), the Manufacturers of Emission Controls Association (MECA), the Associated General Contractors of America (AGC), the Construction Industry Air Quality Association (CIAQC), and the California Construction Trucking Association (CCTA).

<sup>29</sup> EPA received written comment from: Airlines for America (A4A) – EPA-HQ-OAR-2008-0691-0297; Manufacturers of Emission Controls Association (MECA) (Copy of oral testimony) - EPA-HQ-OAR-2008-0691-0300; Steve Milloy (Copy of oral testimony) - EPA-HQ-OAR-2008-0691-0301; Pacific Legal Foundation (PLF) (copy of oral testimony) - EPA-HQ-OAR-2008-0691-0302; Associated General Contractors of America (AGC) (Copy of oral testimony) - EPA-HQ-OAR-2008-0691-0303; PLF - EPA-HQ-OAR-2008-0691-0304; Altfillisch Contractors (ACI) - EPA-HQ-OAR-2008-0691-0305; Savala Equipment Company - EPA-HQ-OAR-2008-0691-0306; Dr. Matthew Malkan - EPA-HQ-OAR-2008-0691-0307; Dr. James Enstrom - EPA-HQ-OAR-2008-0691-0308; Dr. Phalen – EPA-HQ-OAR-2008-0691-0313; California Construction Trucking Association (CCTA) - EPA-HQ-OAR-2008-0691-0309; American Road & Transportation Builders Association (ARTBA) - EPA-HQ-OAR-2008-0691-0310; Bay Cities Paving and Grading (Bay Cities) - EPA-HQ-OAR-2008-0691-0311; Nick Silicz - EPA-HQ-OAR-2008-0691-0313; Granite Rock - EPA-HQ-OAR-2008-0691-0314; Delta Construction - EPA-HQ-OAR-2008-0691-0315; United Contractors - EPA-HQ-OAR-2008-0691-0316; Construction Industry Air Quality Coalition (CIAQC) - EPA-HQ-OAR-2008-0691-0317; California Air Resources Board - EPA-HQ-OAR-2008-0691-0318 (CARB Written Comments) and EPA-HQ-OAR-2008-0691-0319 (CARB Supplemental Comments); PLF Request to Reopen Comment Period, etc - EPA-HQ-OAR-2008-0691-0320.

<sup>30</sup> EPA-HQ-OAR-2008-0691-0321. As discussed below, EPA believes that interested parties have adequate opportunity to present their views through both the public hearing and by submitting written comment.

<sup>31</sup> As explained above, EPA’s authorization analysis is guided by precedent related to both section 209(e)(2) and to section 209(b), which contains similar, and in some cases identical, language. See *Engine Manufacturers Ass’n v. EPA (EMA)*, 88 F. 3d 1075, 1085-87 (D.C. Cir. 1996).

EPA maintains that the phrase “California standards” means California’s entire group of standards (i.e. the overall program) that is applicable to nonroad engine emissions. As explained below, while evaluating California’s protectiveness determination, EPA compares California’s standards to applicable federal standards. That comparison is undertaken within the broader context of the California program applicable to nonroad vehicles and engines, for which EPA previously has granted authorization and which relies upon protectiveness determinations that EPA in its authorization decisions found not to be arbitrary and capricious.<sup>32</sup>

As noted above, EPA is guided in its interpretation of the section 209(e)(2) authorization criteria by the similar language in section 209(b) pertaining to waivers of preemption for new motor vehicle standards. Therefore, the evaluation of the protectiveness of CARB’s nonroad standards under section 209(e)(2)(A)(i) follows the instruction of section 209(b)(2), which states: “If each State standard is at least as stringent as the comparable applicable Federal standard, such State standard shall be deemed to be at least as protective of health and welfare as such Federal standards for purposes of [209(b)(1)].” EPA evaluates the stringency of California’s standards relative to comparable EPA emission standards. To review California’s protectiveness determination under section 209(e)(2)(A)(i), EPA conducts its own analysis comparing the newly adopted California standards to comparable applicable Federal standards. EPA traditionally makes a quantitative comparison of relevant numeric emission standards to

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<sup>32</sup> In situations where there are no Federal standards directly comparable to the specific California standards under review, the analysis then occurs against the backdrop of previous waivers which determined that the California program was at least as protective of the federal program. In a prior EPA waiver pertaining to California’s zero-emission vehicle program (ZEV) for which there are no comparable Federal standards, EPA also took into consideration California’s existing low-emission vehicle program (LEV II) and greenhouse gas emission standards (GHG) applicable to light-duty vehicles. ((LEV II + ZEV) + GHG). *See* 71 FR 78190 (December 28, 2006), Decision Document for Waiver of Federal Preemption for California Zero Emission Vehicle (ZEV) Standards (December 21, 2006).



determine whether the California standards are more or less protective than the Federal standards.<sup>33</sup>

As explained above in the section on burden and standard of proof, any finding that California's determination was arbitrary and capricious under section 209(b)(1)(A) must be based upon "'clear and compelling evidence' to show that proposed [standards] undermine the protectiveness of California's standards."<sup>34</sup> Accordingly, even if EPA's own analysis of comparable protectiveness, or one submitted by a commenter, might diverge from California's analysis, that alone would not provide a sufficient basis for EPA to make a section 209(b)(1)(A) finding that California's protectiveness finding is arbitrary and capricious.

1. Based on EPA's Traditional Analysis, is California's Protectiveness Determination Arbitrary and Capricious?

In adopting the initial version of the Fleet Requirements, CARB approved Resolution 07-19, in which it declared:

Be it further resolved that the Board hereby determines, in accordance with CAA section 209(e)(2), that to the extent the regulations approved herein affect nonroad vehicles or nonroad engines as defined in CAA section 216(10) and (11), the emission standards and other requirements related to the control of emissions in the regulations approved herein are, in the aggregate, at least as protective of public health and welfare as applicable federal standards, California needs its nonroad emission standards to meet compelling and extraordinary conditions, and the standards and accompanying enforcement procedures approved herein are consistent with CAA section 209.<sup>35</sup>

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<sup>33</sup> In situations where there are no Federal standards directly comparable to the specific California standards under review, the analysis then occurs against the backdrop of previous waivers which determined that the California program was at least as protective of the federal program ((LEV II + ZEV) + GHG). See 71 FR 78190 (December 28, 2006), Decision Document for Waiver of Federal Preemption for California Zero Emission Vehicle (ZEV) Standards (December 21, 2006).

<sup>34</sup> *MEMA I*, 627 F.2d at 1122.

<sup>35</sup> CARB Authorization Request at 17.

With the most recent Fleet Requirements amendments in 2010, the Board reaffirmed its protectiveness finding in Resolution 10-47.<sup>36</sup> CARB maintains that there is no basis for EPA to find the Board's determination (which applies solely to standards for *in-use* nonroad engines) is arbitrary and capricious since EPA's authority, under the CAA, is limited to *new* engines, vehicles, and equipment. As a result, EPA has not adopted any federal standards or requirements for in-use nonroad engines. CARB notes that there is no question that its Fleet Requirements are at least as protective of public health and welfare as applicable federal standards, given the lack of any comparable EPA standards.<sup>37</sup>

As described above, EPA's traditional analysis has been to evaluate California's protectiveness determination by comparing the newly adopted California standards to applicable EPA emission standards for the same pollutants from the industry sector. CARB is correct that EPA's authority to adopt emission standards and other requirements related to the control of nonroad emissions is limited to new engines, vehicles, and equipment,<sup>38</sup> and that as a result EPA has not adopted any standards or requirements for in-use nonroad engines.

EPA already has determined that California was not arbitrary and capricious in its determination that California standards applicable to *new* nonroad CI engines are at least as protective as comparable Federal standards.<sup>39</sup> The in-use Fleet Requirements will achieve emission reductions in addition to those achieved by the previously authorized new nonroad

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<sup>36</sup> "BE IT FURTHER RESOLVED that the Board hereby determines, in accordance with CAA section 209(e)(2), that the proposed amendments as they affect nonroad vehicles or nonroad engines as defined in CAA section 216 (10) and (11), do not undermine the Board's previous determination that the regulation's emission standards, other emissions related requirements, and associated enforcement procedures are, in the aggregate, at least as protective of public health and welfare as applicable federal standards, are necessary as part of ARB's off-road emission program to meet compelling and extraordinary conditions existing in the state, and are consistent with CAA section 209." CARB Resolution 10-47EPA-HQ-OAR-2008-0691-0283.

<sup>37</sup> Authorization Request at 18, citing *Engine Manufacturers Association v. EPA*, (D.C. Cir. 1996) 88 F.3d at 1075, 1089-1090.

<sup>38</sup> See 42 USC 7547 (Section 213 of Clean Air Act).

<sup>39</sup> 75 FR 8056 (February 23, 2010).

engine standards, for which CARB made a protectiveness finding that EPA found not to be arbitrary and capricious. According to CARB, the Fleet Requirements are expected to result in a reduction of 0.5 tons/day of NO<sub>x</sub> in the South Coast and 0.3 tons/days in San Joaquin Valley in 2014, along with 3.2 tons/day and 1.9 tons/day in these respective areas in 2023.<sup>40</sup> As such, the Fleet Requirements achieve additional emission reductions beyond those attained under CARB emission standards applicable to new nonroad CI engines, which EPA has already determined to be as protective, in the aggregate, as applicable federal standards. Accordingly, there is no basis for determining that CARB's protectiveness finding with regard to the in-use Fleet Requirements is arbitrary and capricious.

Further, as noted above, EPA is guided in its interpretation of 209(e)(2)(A)(i) by section 209(b)(2). Section 209(b)(2) states: "If each State standard is at least as stringent as the comparable applicable Federal standard, such State standard shall be deemed to be at least as protective of public health and welfare as such Federal standards for purposes of paragraph (1)." In this instance there is no comparable applicable Federal standard for in-use nonroad CI engines and thus there is no basis for determining the CARB's protectiveness finding is arbitrary and capricious through the application of section 209(b)(2).

Finally, EPA received no comments or evidence suggesting that CARB's protectiveness determination, under EPA's traditional analysis, is arbitrary and capricious. In particular, no commenter disputes that California standards, whether looking at the particular California standards being authorized in this proceeding or the entire suite of California standards for nonroad engines, are at least as stringent, in the aggregate, as applicable federal standards.

In light of the foregoing, EPA finds that CARB's Fleet Requirements achieve additional emission reductions beyond CARB's requirements applicable to new nonroad CI engines, and

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<sup>40</sup> CARB Written Comments at 10.

further finds that the opponents of authorization have not presented evidence to show that CARB's protectiveness determination is arbitrary and capricious. Accordingly, applying the traditional comparative analysis, we cannot find that CARB's protectiveness determination is arbitrary and capricious.

## 2. Is CARB's Protectiveness Determination Arbitrary and Capricious Based on Other Effects of California's Fleet Requirements?

Having addressed the protectiveness inquiry under EPA's traditional analysis, we turn now to the question whether we should use a different analytical approach and, if so, whether a different approach would yield a different outcome. EPA received one comment suggesting that EPA's analysis under section 209(e)(2)(A)(i) should be based on a broader inquiry into the effects of CARB's Fleet Requirements.<sup>41</sup> Relatedly, EPA received one other comment specifically questioning whether CARB's Fleet Requirements are as protective of applicable Federal requirements in light of the Fleet Requirements' alleged adverse impacts on needed transportation and infrastructure development across the country as well as in California.<sup>42</sup> The latter commenter suggested, for example, that CARB's rule "could" severely impact efforts at improving the nation's infrastructure because transportation projects by necessity involve moving construction equipment across state lines. The commenter stated that equipment associated with such national projects would necessarily have to meet CARB's Fleet Requirements, increasing costs, unless fleet operators were able to differentiate such equipment that would only be used for California projects.<sup>43</sup> The commenter argues that increased costs as a result of the Fleet Requirements could in turn prevent or delay needed construction of infrastructure such as roads, schools, housing and levees, and that such delay or prevention could

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<sup>41</sup> See Delta Construction

<sup>42</sup> See Hearing Transcript and written comment (ARTBA).

<sup>43</sup> *Id.*

adversely affect public health and safety impacts in California and in other states.<sup>44</sup> EPA received further comment suggesting that CARB is prioritizing one public health issue (air quality) over another (safe roads and infrastructure improvements) and thus California’s protectiveness determination is “arbitrary and capricious.”<sup>45</sup>

EPA also received a series of comments from general contracting companies and others that highlighted what they believe to be the adverse economic impacts of the Fleet Requirements. For example, several commenters stated that the regulation would have some combination of the following impacts: significant layoffs, increased unemployment, and disadvantage to family-owned and other small businesses. Such impacts, the commenters argue, would have negative rather than the intended positive effects on public health.<sup>46</sup> One commenter asserted that the correlation between poor health and poverty or lack of employment is much stronger than the correlation between poor health and air pollution. The commenter claims that because of such economic and social impacts, regulations such as the Fleet Requirements will be harmful to California’s citizens and that the health benefits from CARB’s regulation are dubious if not counterproductive.<sup>47</sup> These comments, by and large, do not refer specifically to CARB’s protectiveness determination or section 209(e)(2)(A)(i) and it is not clear whether commenters are referring to EPA’s analysis under that section.

Finally, EPA received comment that does refer to CARB’s protectiveness determination, suggesting it was arbitrary and capricious, but basing this claim on a variety of concerns that do not directly relate to CARB’s actual protectiveness determination (e.g. alleged flaws in CARB’s emission modeling – including CARB’s estimates of economic recovery scenarios – as well as

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<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*, see also CCTA, Savala Equipment Rentals, Delta Construction.

<sup>47</sup> See Delta Construction. This comment is also addressed below under the second authorization criterion of whether California needs its standards to meet compelling and extraordinary conditions.

concerns with the alleged impact of the Fleet Requirements on fleet operator assets leading to more unemployment and associated poor health, and concerns related to the health effects of PM<sub>2.5</sub>).<sup>48</sup>

CARB's written comments note that the Board has repeatedly determined that its in-use off-road regulations are, in the aggregate, at least as protective of public health and welfare as applicable federal standards. In addition to the fact that EPA only has authority to adopt standards related to the control of emissions for *new* nonroad engines, CARB notes that EPA has previously stated that the phrase "state standards" as used in the protectiveness determination means the entire California set of standards (i.e. program) applicable to the relevant category of vehicles or engines. Further, CARB asserts that EPA has previously granted authorization to California's emission standards for new nonroad engines, and the in-use Fleet Requirements will yield emission reductions in addition to the new nonroad engine standards that were the subject of prior protectiveness findings, thus ensuring that the Fleet Requirements are of necessity more stringent than those covered by federal new engine emission standards alone.<sup>49</sup>

CARB responds to criticisms that it prioritized air quality health benefits and did not consider dis-benefits (e.g. increased costs for, and possible delay of, needed highway safety projects and improvements or other infrastructure) by stating that the latter set of concerns falls outside the scope of a section 209 protectiveness determination. CARB maintains that the plain language and intent of section 209(e)(2)(A)(i) is that review of California's protectiveness determination should be based exclusively on whether its "standards will be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards." Since this

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<sup>48</sup> See CCTA.

<sup>49</sup> See CARB's Written Comments.

language is almost identical to the protectiveness criterion language in section 209(b)(1), CARB maintains that EPA should thus follow the directive of Congress in section 209(b)(2) that:

If each State standard is at least as stringent as the comparable applicable Federal standard, such State standard shall be deemed to be at least as protective of health and welfare as such Federal standards for purpose of paragraph (1).

CARB points to EPA's 2009 waiver of California's light-duty greenhouse gas standards (EPA's 2009 GHG Waiver) where EPA concluded that, in considering whether California's protectiveness determination is arbitrary and capricious under section 209(b)(1)(A), the agency "has always interpreted 'applicable Federal Standards' as limiting EPA's inquiry to motor vehicle emission standards established by EPA under the Clean Air Act that apply to the same cars and the same air pollutants or group of pollutants as considered by California's aggregate protectiveness finding."<sup>50</sup> CARB argues that same analysis should apply to nonroad authorizations. CARB maintains that if EPA were to require the Board to consider factors other than aggregate emission standards in making the Board's protectiveness determination, this would undermine the broad discretion that Congress intended to provide California in making policy decisions on how best to address California's severe air pollution.<sup>51</sup>

CARB also disagrees with opponents' arguments that the Fleet Requirements will delay highway safety improvements. CARB notes that, even before the 2010 amendments, the regulations' expected maximum costs were projected to be so small (less than one percent) compared to overall construction spending, that they would not be expected to decrease or delay constructions projects. With the 2010 amendments, CARB expects compliance costs to be

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<sup>50</sup> See EPA's greenhouse gas waiver decision issued in 2009 (2009 GHG Waiver Decision) at 74 FR 32743 (July 8, 2009).

<sup>51</sup> *Id.* at 4-5 (citing *MEMA I*, 627 F.2d at 1122 ["(C)ongressional intent to provide California with the broadest discretion in setting regulations it finds protective of the public health and welfare."]); see also 40 FR 23102, 23104 (May 28, 1975).

significantly lower and even less likely to delay construction projects, including highway safety projects.<sup>52</sup>

EPA agrees that the phrase “California standards” means the entire California nonroad emissions program (i.e. the set of all nonroad standards), or at the very least all of California’s standards for nonroad CI engines, which is the category of engines being regulated by California in the Fleet Requirements. Therefore, as explained above, when evaluating California’s protectiveness determination, EPA compares the California requirements to federal standards applicable to the relevant category of engines. Again, that comparison is undertaken within the broader context of the previously authorized California standards for the relevant category of engines, which rely upon protectiveness determinations that EPA previously has found were not arbitrary and capricious. Finally, as discussed above, no commenter disputes that California standards, whether looking at the particular standards being authorized in this proceeding or the entire suite of standards for nonroad engines, are more stringent than federal standards.

The only issue in dispute is whether other information provided by commenters, outlined at the beginning of this section, provides clear and compelling evidence that California was arbitrary and capricious in finding its standards are in the aggregate at least as protective of public health and welfare as applicable federal standards.

EPA previously has considered whether its traditional analysis is sufficient to properly review CARB’s protectiveness determination with regard to the “in-use effects” of CARB’s regulations. Analysis of such in-use effects remained focused on the actual emission reductions/benefits expected from CARB’s regulation.<sup>53</sup> In EPA’s 2009 GHG Waiver Decision granting a waiver of preemption for CARB’s greenhouse gas (GHG) standards for light duty

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<sup>52</sup> *Id.*

<sup>53</sup> *See* (2009 GHG Waiver Decision at 74 FR 32743, 32758.



vehicles, we noted that, given the legislative history and text of section 209(b)(2), EPA would need a concrete factual basis to examine the in-use effect of California's GHG standards on its broader LEV II program as compared to the Federal Tier II program. EPA did not take a position as to the validity of the suggestion that the type of analysis discussed in EPA's traditional protectiveness analysis is insufficient. Rather, EPA reached the conclusion that commenters who opposed the GHG waiver did not meet their burden of proof in presenting clear and compelling factual evidence (in the context of the regulatory effect on real-world in-use emissions) that CARB's protectiveness determination was arbitrary and capricious.

We recount this history to contrast it with the comments received opposing the Fleet Requirements authorization on the basis of various safety, economic, and health arguments. In the instant proceeding, EPA received no comments indicating why EPA's review of CARB's protectiveness determination with regard to the Fleet Requirements should be broader than past reviews, and/or should be based on anything other than an examination of the stringency of comparable applicable federal standards.

Further, the opponents of the Authorization Request provide no analysis of the statutory language or history of section 209(e)(2)(A)(i) to support their view that the review of the "protectiveness" finding should be broader than EPA's traditional review. Nor do they provide any significant analysis or calculus as to how EPA should or would weigh these competing interests (i.e. those that go beyond the comparative stringency of applicable state and federal emission standards) in making its determination. While EPA recognizes that commenters have expressed significant concerns regarding the potential business impacts of the Fleet Requirements on individual contractors and on employment, a review of CARB's protectiveness determination based upon such factors would be inconsistent with the broad discretion that

Congress intended to provide California in making policy decisions on how best to address California's severe air pollution.<sup>54</sup> As EPA has previously concluded:

[Congressional] sponsors of the (waiver) language eventually adopted referred repeatedly to their intent to make sure that no "Federal bureaucrat" would be able to tell the people of California what auto emission standards were good for them as long as they were stricter than the Federal standards.<sup>55</sup>

In our view, the statutory language of section 209(e)(2)(A)(i) – both on its face and as read together with 209(b)(2) – reflects Congress's intention that EPA evaluate only the comparative stringency of the relevant California and EPA emission standards. As discussed above, the text, structure, and history of the California waiver provision clearly indicate a congressional intent that EPA leave the decision on "ambiguous and controversial matters of public policy" to California's judgment. That has been EPA's consistent practice under section 209. As the court stated in *MEMA I*, Congress's intent in amending the protectiveness determination language in 1977 was to afford California the broadest possible discretion in selecting the best means to protect the health of its citizens. EPA therefore considers it inappropriate, in the context of reviewing CARB's protectiveness determination, to second-guess CARB's policy choices or to weigh competing health and welfare interests that are best left to California.

As explained below under the third authorization criterion – consistency with section 209 (including consistency with 202(a)) – EPA interprets the "cost of compliance" in section 202(a) to refer to the direct economic costs of CARB's standards and the timing of a particular emission

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<sup>54</sup> See *MEMA I*, 627 F.2d at 1122 ["(C)ongressional intent to provide California with the broadest possible discretion in setting regulations it finds protective of the public health and welfare."]; see also 40 FR 23102, 23104 (May 28, 1975).

<sup>55</sup> 40 FR 23101, 23102 (May 28, 1975).

control regulation rather than to its social implications.<sup>56</sup> Similarly, EPA believes it appropriate to limit our examination for purposes of the protectiveness comparison to the specific effects the California and EPA emission standards have on emissions rather than performing an analysis of social impacts or other secondary implications. Policy decisions with regard to how various potential non-emissions impacts of an emission regulation can or should be weighed against one another is inherently and properly within the sphere of the state regulatory authority promulgating the regulation. Such decisions should not be made or reviewed by EPA, which Congress has given the limited role of reviewing the regulations based on the three specified and relatively narrow statutory criteria, consistent with Congress's intent to uphold California's broad regulatory discretion in this sphere.

For all these reasons, EPA declines to depart from its traditional analysis of the protectiveness criterion under section 209(e)(2)(A)(i), as discussed above. Even if there were a valid basis for considering the types of non-air quality impacts alleged by the opponents of the Authorization Request, the opponents did not meet their burden to provide clear and convincing evidence that CARB's analysis of the effects of the Fleet Requirements is unreasonable. For EPA to make a section 209(e)(2)(A)(i) finding that California's protectiveness determination is arbitrary and capricious, it is not enough for authorization opponents to provide competing analysis or alternative policy considerations and arguments. To support a denial of authorization under this criterion, commenters must show that California's analysis, or the assumptions on which California relied to support its protectiveness determination, were *arbitrary and capricious*. In this instance, the opponents of the authorization have suggested that CARB's Fleet Requirements *could* make construction projects more expensive and this could lead to delays.

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<sup>56</sup> See S. Rep. No. 192, 89<sup>th</sup> Cong., 1<sup>st</sup> Sess. 5-8 (1965); H.R. Rep. No. 728, 90<sup>th</sup> Cong., 1<sup>st</sup> Sess. 23 (1967), U.S. Code Cong. & Admin. News 1967, p. 1938.

But they have not introduced any actual evidence that such projects will be suspended due to the costs associated with the Fleet Requirements, and certainly not that the projected increase in costs, as estimated by CARB after the 2010 amendments, will be significant enough to delay or prevent such projects. Similarly, the opponents of the waiver have not introduced substantial evidence that the Fleet Requirements themselves – as opposed to a host of other factors, including the economic downturn, that have affected the economy over the last several years – will result in a loss in the number of employees or actual business. In the absence of any such evidence, EPA could not find California’s protectiveness determination to be arbitrary and capricious even if these alleged impacts were an appropriate subject for analysis under section 209(e)(2)(A)(i).

Regarding the comment that CARB’s regulation could adversely affect health and welfare in other states, EPA does not find the comment to be a basis for judging California’s protectiveness determination to be arbitrary and capricious for two reasons. First, a change in emissions outside of California would not lead to a different conclusion regarding the relative protectiveness of the Fleet Requirements to federal requirements within California. Second, the commenters do not provide any substantive or factual evidence to show significant emissions impacts in other states. We would also note that other states may decide independently to adopt California’s regulations.

In response to the comment that California’s *regulations* are arbitrary and capricious, we note that EPA’s sole review under section 209(e)(2)(A)(i) is whether California’s *protectiveness determination* was arbitrary and capricious. Congress did not give EPA wide-ranging authority to examine the overall reasonableness of California’s regulations. As discussed

above, the policy decisions made by CARB in enacting its regulations are not reviewed generally by EPA, and, as Congress intended, EPA leaves such policy decisions to California.

### 3. Section 209(e)(2)(A)(i) Conclusion

In light of the foregoing, based on the record before us, EPA finds that opponents of the authorization have not shown that California was arbitrary and capricious in its determination that its standards are, in the aggregate, at least as protective of public health and welfare as applicable federal standards.

#### *B. Does California need its standards to meet compelling and extraordinary conditions?*

Section 209(e)(2)(A)(ii) instructs that EPA cannot grant an authorization if the Agency finds that California “does not need such California standards to meet compelling and extraordinary conditions . . .” EPA’s inquiry under this second criterion (found both in paragraphs 209(b)(1)(B) and 209(e)(2)(A)(ii)) has been to determine whether California needs its own mobile source pollution program (i.e. set of standards) for the relevant class or category of vehicles or engines to meet compelling and extraordinary conditions, and not whether the specific standards that are the subject of the authorization or waiver request are necessary to meet such conditions.<sup>57</sup> In a 2009 waiver action, for example, EPA examined the language of section 209(b)(1)(B) and reiterated its longstanding traditional interpretation that the better approach for analyzing the *need* for “such State standards” to meet “compelling and extraordinary conditions” is to review California’s need for its program (i.e. set of standards) as a whole, for the class or category of vehicles being regulated, as opposed to its need for the individual standards that are the subject of a waiver or authorization request.<sup>58</sup>

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<sup>57</sup> See 74 FR 32744, 32761 (July 8, 2009); 49 FR 18887, 18889-18890 (May 3, 1984).

<sup>58</sup> See EPA’s 2009 GHG Waiver Decision wherein EPA rejected the suggested interpretation of section 209(b)(1)(B) as requiring a review of the specific need for California’s new motor vehicle greenhouse gas emission standards as

As noted above, CARB first adopted its Fleet Requirements in 2007. CARB designed the 2007 regulation to address its determination that legacy fleets – and particularly nonroad CI vehicles – were responsible for significant PM and NO<sub>x</sub> emissions. CARB’s Initial Statement of Reasons (ISOR) states, in part:

Off-road vehicles are a significant source of diesel particulate matter, as well as NO<sub>x</sub> emissions that lead to ozone and ambient PM. Statewide, they are responsible for nearly a quarter of the total PM emissions from mobile diesel sources and nearly a fifth of the total NO<sub>x</sub> emissions from mobile diesel sources. Although increasingly stringent new engine standards are reducing emissions from off-road diesel vehicles over time, because of their durability, most vehicles operate for several decades before being retired. Thus, in-use off-road diesel vehicles would continue to pose significant health risk for many years if this proposed regulation is not adopted. ... without reductions from this large source category, the South Coast and San Joaquin Valley would be unable to attain the federal ambient air quality standards. ....[E]missions would trend naturally down as the fleet gradually turned over to newer, cleaner engines. However, these reductions are not sufficient for many areas of the state to meet clean air standards. Because of this, the proposed regulation accelerates this anticipated reduction in emissions.<sup>59</sup>

The 2010 amendments affirmed CARB’s longstanding position that California continues to need its own nonroad engine and vehicle program to address serious air pollution problems the state still confronts.<sup>60</sup> CARB’s Authorization Request notes that California and particularly the

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opposed to the traditional interpretation (need for the program as a whole) applied to local or regional air pollution problems.

<sup>59</sup> See STAFF REPORT: INITIAL STATEMENT OF REASONS FOR PROPOSED RULEMAKING (ISOR) at EPA-HQ-OAR-2008-0691-0002, attachment A at 7-10. EPA notes that while CARB has incorporated by reference its earlier submissions to EPA docket EPA-HQ-OAR-2008-0691 we recognize that CARB has modified its emission inventory modeling. Nevertheless, the NR CI legacy fleet in California continues to present California with serious air quality issues according to CARB.

<sup>60</sup> See CARB Resolution 10-47 at EPA-HQ-OAR-2008-0691-0283. Specifically, the Board stated, in part:

WHEREAS, in-use off-road diesel vehicles operating in the state, as a class, continue to be a significant source of air pollution emissions in California that contribute to continuing violations of the national ambient air quality standards (NAAQS) for both particulate matter (PM) less than 2.5 microns (PM<sub>2.5</sub>) and ozone, and to continuing localized health risk, including premature death, associated with exposure to PM<sub>2.5</sub>; WHEREAS, Staff Report 2007 further discussed the results of ARB staff’s evaluations of the non-cancer health effects of exposure to primary and secondary PM emissions from the vehicles subject to the initially proposed Off-Road regulation, and these evaluations indicated that exposure to these emissions can be associated with premature deaths and other non-cancer health impacts;

South Coast and San Joaquin Valley air basins continue to experience some of the worst air quality in the nation and continue to be in non-attainment with national ambient air quality standards (NAAQS) for fine particulate matter (PM<sub>2.5</sub>) and ozone.<sup>61</sup> “The unique geographical and climatic conditions, and the tremendous growth in California’s on-and off-road vehicle population, which moved Congress to authorize the State to establish on-road motor vehicle standards in 1970 and off-road engine standards in 1990, still exist today....Nothing in these conditions has changed to warrant a change in this determination. Accordingly, there can be no doubt of the continuing existence of compelling and extraordinary conditions justifying California’s need for its own mobile source emissions control program.”<sup>62</sup>

CARB’s Authorization Request also notes the continuing importance and need to address the NAAQS for pollutants considered to be harmful to public health, including PM<sub>2.5</sub> and

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WHEREAS, the United State Environmental Protection Agency (U.S. EPA) in a recently published review of the PM-related health science literature, which is the first part of an ongoing review of the national ambient air quality standards for PM, concluded that long-term exposure to PM<sub>2.5</sub> is causally associated with premature mortality, and that premature deaths caused by PM<sub>2.5</sub> occur at levels as low as 5.8 micrograms per cubic meter, which is considerably lower than the current national standard of 15 micrograms per cubic meter;

WHEREAS, the U.S. EPA risk assessment methodology is the basis for ARB’s estimate that 9,200 (7,300 to 11,000, 95 percent confidence interval) premature deaths occur annually in California and that reducing emissions to meet the Federal standard would result in 2,700 fewer premature deaths annually;

WHEREAS, the Board further finds based on its independent judgment and analysis of the entire record before it that:

In-use off-road diesel vehicles and engines that operate in the State- whether based in California or not- continue to be significant contributors of diesel PM and NOx emissions, which California must reduce to attain the ozone and PM<sub>2.5</sub> NAAQS and to reduce the health risks associated with such pollutants;

Even with the amendments and economic relief proposed, the proposed amended regulation would significantly reduce diesel PM and NOx emissions and associated cancer, premature mortality, and other adverse health effects statewide, such that emission reductions from the proposed amended regulation are expected to prevent 470 premature deaths from 2014 to 2029.

<sup>61</sup> CARB Authorization Request at 18, *citing* 7 FR 4052, 4054 (July 11, 2011).

<sup>62</sup> CARB Authorization Request at 18, *citing* 74 FR 32744, 32762 (July 8, 2009); 76 FR 77515, 77518 (December 13, 2011).

ozone.<sup>63</sup> For areas in California that exceed the NAAQS, CARB is responsible under CAA section 110 for developing a State Implementation Plan (SIP) that describes how the state will attain the standards by certain deadlines. The South Coast Air Basin and the San Joaquin Valley Air Basin are in nonattainment for both PM<sub>2.5</sub> and the 8-hour ozone standard. Significant reductions in NO<sub>x</sub> emissions are needed to attain the standards because NO<sub>x</sub> leads to formation in the atmosphere of both ozone and PM<sub>2.5</sub>. Diesel PM emissions reductions are also needed because diesel PM contributes to ambient concentrations of PM<sub>2.5</sub>. The South Coast and San Joaquin Valley air basins are both required to be in attainment with the PM<sub>2.5</sub> standard by 2014. The San Joaquin Valley and South Coast air basins are required to be in attainment of the 8-hour ozone standard by 2023.<sup>64</sup>

The SIP for the South Coast and San Joaquin air basins demonstrates attainment of the PM<sub>2.5</sub> standard by 2014, but only based on projected achievement of PM<sub>2.5</sub> emission reductions of nearly 15 percent in the South Coast Air Basin and 25 percent in the San Joaquin Valley Air Basin. CARB's Authorization Request states that NO<sub>x</sub> emissions must be reduced by approximately 50 percent to meet the PM<sub>2.5</sub> standard in the South Coast and the San Joaquin Valley air basins. Even greater NO<sub>x</sub> reductions, on the order of 75 to 88 percent, will be needed to achieve the 8-hour ozone standard by 2023. California's 2007 SIP included the initial version of the Fleet Requirements as a control measure. CARB's legal commitment to achieve the emission reductions specified in the SIP relies upon the emission reductions from the Fleet Requirements regulation in the South Coast and the San Joaquin Valley.<sup>65</sup> In its ISOR, CARB

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<sup>63</sup> CARB notes: Ambient PM<sub>2.5</sub> is associated with premature mortality, aggravation of respiratory and cardiovascular disease, asthma exacerbation, chronic and acute bronchitis and reductions in lung function. Ozone is a powerful oxidant. Exposure to ozone can result in reduced lung function, increased respiratory symptoms, increased airway hyper-reactivity, and increased airway inflammation. Exposure to ozone is also associated with premature death, hospitalization for cardiopulmonary causes, and emergency room visits for asthma.

<sup>64</sup> CARB Authorization Request at 3-4.

<sup>65</sup> *Id.*



notes “Despite the major economic recession and revisions to the off-road regulation inventory, the in-use off-road diesel vehicle category remains an important source of emissions. In 2010, staff estimates the off-road vehicles subject to the off-road regulation are the fourth largest source of diesel PM in California (7 percent of total) and the sixth largest source of NO<sub>x</sub> from all sources (4 percent of total).”<sup>66</sup>

1. Should EPA Review This Criterion Based on the Need for California’s Nonroad Program or the Need for the Fleet Requirements?

In addressing whether California needs “such State standards to meet compelling and extraordinary conditions,” we must first address the question whether it is appropriate for EPA to evaluate this criterion based on California’s need for its nonroad emission program as a whole, or whether we instead should evaluate only the particular standards being addressed in this authorization proceeding.

As noted above, CARB maintains that the relevant inquiry is whether California needs its own emission control program as opposed to the need for any given standard as necessary to meet compelling and extraordinary conditions. CARB notes that in prior decisions the Administrator has determined that:

“[C]ompelling and extraordinary conditions” does not refer to levels of pollution directly, but primarily to the factors that tend to produce them: geographical and climatic conditions that, when combined with large numbers and high concentrations of automobiles create serious air pollution problems.<sup>67</sup>

EPA has also consistently held that the phrase “the need for California emission standards” refers to the need for California’s program (i.e. set of standards) applicable to the relevant category of vehicles or engines, and not the need for the particular standards that are the

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<sup>66</sup> EPA-HQ-OAR-2008-0691-0002 Attachment A, at 13.

<sup>67</sup> CARB Authorization Request at 18.

subject of an authorization request. In the instant proceeding, EPA received comments disputing this approach, which we discuss below.

a. Comment from Pacific Legal Foundation

EPA received comment from the Pacific Legal Foundation (PLF) challenging both California's and EPA's interpretation of the "compelling and extraordinary conditions" criterion in section 209(e)(2)(A)(ii). PLF asserts that based on both the plain language of the provision and its legislative history, the word "standards" should be read to refer only to particular standards, and not to the entire California program for the relevant category of engines or vehicles.<sup>68</sup>

PLF contends that California must apply for a waiver or authorization on a case-by-case basis<sup>69</sup> and that the Clean Air Act requires EPA not grant California any waiver or authorization unless California makes a showing that it has "compelling and extraordinary conditions" necessitating the particular standards for which a waiver or authorization is sought. PLF argues that CARB has put little evidence in the record about the need for the Fleet Requirements. Further, PLF asserts that "Congress intended the word 'standard' in section 209 to mean quantitative level of emissions"<sup>70</sup> and that there is no indication in the text or legislative history that by using the term "standard" Congress really meant "program" or anything other than "standard." PLF states that Congress could have used the term "program" rather than the term "standards" in the statute and delegated to EPA the responsibility to make case by case decisions on whether a particular standard was required or needed.

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<sup>68</sup> As explained below, EPA believes it important to examine the language of section 209(e)(2)(A)(ii) precisely as Congress set it forth. Therefore, to be clear, the phrase "the need for California emission standards" does not appear in this section. Rather, the language is "No such authorization shall be granted if the Administrator determines that – (ii) California does not need such California standards to meet compelling and extraordinary conditions." EPA's interpretation of this section includes an examination of the significance of the word "such" before "California standards."

<sup>69</sup> PLF at 1.

<sup>70</sup> PLF cites *MEMA I* at 1112-1113.

In addition, PLF cites the legislative history of section 209 to support its position that standards need to be justified on an individual basis. Specifically, PLF cites the Senate Committee report for the 1967 legislation, which in discussing section 208 (the predecessor to what is now section 209) refers to California's "compelling and extraordinary circumstances" that are "sufficiently different from the nation as a whole to justify standards ... [that] may, *from time to time*, need to be more stringent than national standards."<sup>71</sup> PLF argues that this language indicates that Congress intended California to justify *specific* standards "from time to time," and that it intended EPA to deny a waiver if California does not require or need particular standards. PLF claims that if Congress wanted to apply a need tests based on California's need for a program as a whole then it could have stated so.

PLF further contends that in 1977, when Congress amended section 209(b) – Congress continued to focus on "standards" but with two important additions. First, Congress amended the language relating to the protectiveness determination to clarify that California's standards need only be at least as protective as federal standards "in the aggregate" – making clear that California did not need to determine that each individual standard would be more protective or stringent than applicable federal standards. PLF asserts that this clarification, however, applied only to the protectiveness determination. Second, Congress tightened section 209(b)(1)(B) to provide that "*no* such waiver shall be granted if EPA finds that California ... does not *need* such *standards* to meet compelling and extraordinary conditions...." (emphasis added). PLF asserts that the preexisting 1967 language had provided that EPA "shall" grant a waiver unless it finds California did "not require" the underlying standards, whereas the 1977 amendments expressly *prohibited* EPA from granting a waiver where California did not "need" a particular emissions standard. Based on the foregoing, PLF argues that the 1977 amendments created two separate

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<sup>71</sup> S Rep No 90-403 at 33 (1967) (emphasis added).

tests for “standards.” The “protectiveness” test (under the first waiver criterion), which applies to the protectiveness of California’s aggregate set of standards, and the “needs” test (under the second waiver criterion), which is based on a need for the particular standards for which a waiver is sought and focuses on whether there are compelling conditions in the state necessitating that particular standard.

PLF also maintains that EPA’s traditional interpretation is contrary to plain meaning of the CAA. PLF asserts that the term “program” is not used in section 209 and that the phrase “such California standards” in 209(e)(2)(A)(ii) does not refer to the entire California mobile source emissions program. PLF states that the phrase “in the aggregate” appears only once in section 209 and only under the first waiver prong added in the 1977 amendments. “In the aggregate” is set off by commas, PLF argues, providing evidence that it pertains only to protectiveness under the first waiver criterion, and does not apply to the “needs” inquiry under the second waiver criterion. PLF maintains that the outcome of the protectiveness test depends on California making a determination, whereas the outcome of the needs tests depends on EPA making a finding. Further, PLF argues that the protectiveness test affirmatively mandates that EPA approve the waiver application if California makes the protectiveness determination, while the “needs test” expressly prohibits EPA from granting a waiver if EPA makes the requisite finding. Thus, PLF argues, the first prong is written to broaden the likelihood of issuing a waiver, whereas the second prong is written to narrow it.

PLF maintains that the two waiver prongs were intended to address entirely different issues. Congress gave EPA greater authority to approve waivers under the first prong, PLF asserts, but lesser authority to approve waivers under the independent needs test. PLF highlights that the sentence regarding “protectiveness” applies to both “standards and other requirements,”

whereas the sentence establishing the needs test refers only to standards. This makes sense, according to PLF, because Congress intended EPA to look holistically at protectiveness and not at whether an individual standard was as protective. To ensure CARB did not abuse the privilege, PLF argues, Congress provided under the “needs” criterion that California could not adopt any standard that it did not need or that was not specifically designed to address California’s “peculiar” conditions.

Finally, PLF maintains that EPA’s traditional interpretation leads to absurd results. PLF states that EPA itself has acknowledged that conditions in California may improve, thereby eliminating the need for the authority to waive preemption of California standards.<sup>72</sup> Under EPA’s traditional interpretation, PLF argues, EPA would be forced to deny a waiver request based on a finding that there is no longer a need for the California program. PLF argues that such a finding would put in jeopardy past waivers, as the positive (program-wide) “needs” finding underpinning those past waivers would no longer be valid. PLF further comments that a broad negative finding with regard to “needs” would eliminate CARB’s ability to maintain its own mobile source emission standards program, separate from the federal program. In such circumstances, PLF argues, EPA would be substituting its policy judgment for that of Congress. If one interpretation leads to absurd results and another does not, PLF argues, then the former must be rejected.

b. EPA Response

EPA examined these same issues at length in the Agency’s 2009 decision granting California’s request for a waiver of preemption of its GHG standards for light duty vehicles.<sup>73</sup> Consistent with that examination, EPA continues to believe that the traditional approach to the

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<sup>72</sup> See 74 FR 32744, 32762 (July 8, 2009).

<sup>73</sup> 74 FR 32744, 32759-32762 (July 8, 2009).

compelling and extraordinary conditions criterion is appropriate. That is, EPA believes it is proper to review California's need for its emission program (i.e. set of standards) applicable to the relevant category of vehicles or engines as a whole, rather than to follow an interpretation that applies this criterion to specific standards that are the subject of an authorization request.

EPA's traditional interpretation is the most straightforward reading of the text and legislative history of section 209(b) and section 209(e). First, EPA disagrees with PLF's assertions regarding the original language of the preemption provision promulgated in 1967. The critical language in section 208(b) of the 1967 legislation required that EPA's predecessor department grant California a waiver of section 208(a) preemption unless it found that California "does not require standards more stringent than applicable Federal standards to meet compelling and extraordinary conditions...." This language did not suggest a searching review of every California standard. Rather, it required a waiver of preemption unless the agency determined that California did not require more stringent "standards" – a term that is both general and plural – to meet compelling and extraordinary conditions. This language is fully consistent with a review of California's general need for more stringent standards and thus for its own program (i.e. its own set of standards).

PLF's emphasis on the word "standards," as opposed to "program" in this section is inapposite. EPA's use of the word "program" in this context is simply meant to describe the *group of standards* applicable to the engines and vehicles in question under California's regulatory program, compared to those under the federal program. The "program" in this context is merely the standards being considered together. It is fully consistent with the language of the statute to review the need for the program (i.e. the set of relevant standards) as a whole, rather than the need for individual standards. PLF's reference to legislative history is consistent with

EPA's view that the relevant issue in determining whether a waiver is justified is California's "circumstances" being "sufficiently different", rather than the specific need for any particular standard.<sup>74</sup>

Beginning prior to the 1977 amendments, EPA has consistently interpreted the "compelling and extraordinary conditions" criterion to apply to the full California program (i.e. set of standards).<sup>75</sup> When Congress re-evaluated this provision in 1977, it could have revised the criterion to make clear that California must show each standard is necessary. Instead, as discussed below, Congress went out of its way to indicate that California is to be given even more flexibility in designing its own motor vehicle program.<sup>76</sup>

PLF, moreover, does not take proper account of the critical statutory change Congress made in 1977, which allowed California to promulgate individual standards that are not as stringent as comparable federal standards, as long as the standards are "in the aggregate, at least as protective of public health and welfare as applicable federal standards." This decision by Congress requires EPA to waive preemption of individual California standards that, in and of themselves, might not be considered needed to meet compelling and extraordinary circumstances, but are part of California's overall approach to reducing vehicle emissions to address air pollution problems.

Although PLF is correct that the 1977 amendments formally separated the "protectiveness" criterion from the "need" criterion, the latter continues to refer back to the language regarding protectiveness, by using the term "*such* state standards." In addition, contrary to PLF's comments, the creation of the "in the aggregate" test for protectiveness is supportive of the argument that EPA is not to look at the need for each individual standard. If EPA were

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<sup>74</sup> PLF at 4.

<sup>75</sup> See 38 FR 30136 (November 1, 1973).

<sup>76</sup> *MEMA I*, 627 F.2d at 1110.

required to look independently at the need for each individual standard, any individual standard that was less stringent than a federal standard might be considered unnecessary. This would obviate the rationale for looking at the protectiveness of California's standards "in the aggregate" under the first criterion – effectively requiring EPA to give back in the second criterion what Congress explicitly gave California in its revision to the first criterion. Finally, it bears emphasis that the 1977 amendments continued to require that EPA grant a waiver of preemption unless it makes one of the findings in section 209(b)(1), thus continuing to put the burden of proof on those opposing the waiver.<sup>77</sup>

Congress, in 1990, added language in section 209(e)(2)(A) creating criteria for EPA authorization of California nonroad engine standards that are essentially identical to the criteria for EPA waiver of preemption of California's standards for new motor vehicles in section 209(b). In particular, Congress provided California with the discretion to create a broad emissions program (i.e. "California standards") that needs only to be as stringent as applicable EPA standards, in the aggregate. Further, section 209(e)(2)(A)(ii) refers to whether "*such* California standards" are needed to meet compelling and extraordinary conditions, referring back to the general and plural term "California standards" in the protectiveness finding.

The language of section 209(e)(2)(A) regarding the "protectiveness" determination by California refers only to "California standards," not to each California standard individually. Moreover, the use of the term "in the aggregate" makes clear that the set of standards to be reviewed is the aggregate set of standards applicable to the engines and vehicles being regulated. EPA is to determine whether California's determination is arbitrary and capricious under section 209(e)(2)(A)(i), and is to determine whether California does not need "*such* California standards" to meet compelling and extraordinary conditions. The natural reading of these

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<sup>77</sup> *Id.*



provisions leads EPA, in addressing the “needs” criterion, to consider the same group of standards that California considered in making its protectiveness determination. While the words “in the aggregate” are not specifically applicable to section 209(e)(2)(A)(ii), this criterion does refer to the need for “such California standards,” rather than “each California standard” or otherwise indicate a standard-by-standard analysis. The text thus indicates that the proper analysis is to review the aggregate set of standards (i.e. the program) applicable to the regulated vehicles and engines.<sup>78</sup>

PLF’s discussion of case law interpreting the term “standard” is inapposite. For example, although PLF points to both *MEMA I* and *EMA*, those decisions address an entirely different issue relevant to section 209 – i.e., whether the regulation set by California is, in fact, a “standard,” as opposed to another type of provision, like an enforcement provision. These cases do not illuminate the issue of whether EPA reviews each standard individually under sections 209(b)(1)(B) and 209(e)(2)(A)(ii), or whether it reviews California’s standards as a group (i.e. California’s program for such engines) under those provisions.

EPA’s 2009 decision waiving preemption of California’s GHG standards for light duty vehicles considered the plain language and legislative history of section 209(b)(1)(B) and determined that for all pollutants, it was appropriate to review section 209(b)(1)(B) by reviewing

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<sup>78</sup> To the extent the provision is ambiguous, EPA’s interpretation is, at minimum, one that is reasonable and entitled to deference under *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984). It certainly is not “unambiguously precluded” by the language of the statute. See *Entergy Corp. v. Riverkeeper, Inc.*, 129 S.Ct. 1498 (2009) (“That view governs if it is a reasonable interpretation of the statute – not necessarily the only possible interpretation, nor even the interpretation deemed most reasonable by the courts. *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 843-844 (1984).”) (“It seems to us, therefore, that the phrase “best available,” even with the added specification “for minimizing adverse environmental impact,” does not unambiguously preclude cost-benefit analysis.”). *Carrow v. Merit Systems Protection Board*, 564 F.3d 1359 (Fed. Cir. 2009) (“[W]e are obligated to give controlling effect to [agency’s] interpretation if it is reasonable and is not contrary to the unambiguously expressed intent of Congress”, citing *Entergy Corp.*).

the need for California's motor vehicle program, rather than individual standards. We incorporate that discussion into this decision by reference because, as explained above, the language of section 209(e)(2)(A)(ii) is substantively the same as that in section 209(b)(1)(B) on this issue.

The 2009 GHG waiver decision included the following discussion, which in particular addressed a 1984 decision waiving preemption for earlier California PM standards:

[I]n the legislative history of section 209, the phrase "compelling and extraordinary circumstances" refers to "certain general circumstances, unique to California, primarily responsible for causing its air pollution problem," like the numerous thermal inversions caused by its local geography and wind patterns. The Administrator also noted that Congress recognized "the presence and growth of California's vehicle population, whose emissions were thought to be responsible for ninety percent of the air pollution in certain parts of California." EPA reasoned that the term compelling and extraordinary conditions "do not refer to the levels of pollution directly." Instead, the term refers primarily to the factors that tend to produce higher levels of pollution – "geographical and climatic conditions (like thermal inversions) that, when combined with large numbers and high concentrations of automobiles, create serious air pollution problems."

The Administrator summarized that under this interpretation the question to be addressed in the second criterion is whether these "fundamental conditions" (i.e. the geographical and climate conditions and large motor vehicle population) that cause air pollution continued to exist, not whether the air pollution levels for PM were compelling and extraordinary, or the extent to which these specific PM standards will address the PM air pollution problem.<sup>79</sup>

The structure of section 209, as adopted in 1967 and as amended in 1977 and 1990, is notable in its focus on limiting the ability of EPA to deny a waiver or authorization. This limitation preserves discretion for California to construct its motor vehicle and nonroad programs as it deems appropriate to protect the health and welfare of its citizens. The legislative history indicates Congress quite intentionally restricted and limited EPA's review of California's standards, and that its express legislative intent was to "provide the broadest possible discretion [to California] in selecting the best means to protect the health of its citizens and the public

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<sup>79</sup> 74 FR 32744, 32759 (July 8, 2009) (citations omitted).

welfare.’’<sup>80</sup> The D.C. Circuit recognized that “[t]he history of the congressional consideration of the California waiver provision, from its original enactment up through 1977, indicates that Congress intended the State to continue and expand its pioneering efforts at adopting and enforcing motor vehicle emission standards different from and in large measure more advanced than the corresponding federal program. In short to act as a kind of laboratory for innovation. \* \*

\* For a court [to limit California’s authority] despite the absence of such an indication would only frustrate the congressional intent.’’<sup>81</sup>

In this context, it is fully consistent with the expressed intention of Congress to interpret section 209(e)(2)(A)(ii) in a manner that allows California the policy discretion to set its emission program as it sees fit, subject to the limitation that its standards remain, in the aggregate, as protective of public health and welfare as applicable federal standards and that California continue to experience compelling and extraordinary conditions. Congress intended to provide California the broadest possible discretion to develop its nonroad emissions program. Neither the text nor the legislative history of section 209(b) or 209(e) indicates that Congress intended to limit this broad discretion by requiring EPA to determine, on a case-by-case basis, whether each specific standard is necessary or appropriate for California. EPA’s longstanding interpretation, accordingly, is directly in line with the purpose of Congress.

This approach does not make section 209(b)(1)(B) or section 209(e)(2)(A)(ii) a nullity. EPA must still determine whether opponents of authorization have met their burden to establish that California does not need its nonroad program to meet the compelling and extraordinary conditions. As discussed below, EPA does not believe that burden has been met in this instance.

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<sup>80</sup> 105 H.R. Rep. No. 294, 95th Cong., 1st Sess. 301– 302 (1977). See *MEMA*, 627 F. 2d at 1110–11.

<sup>81</sup> *MEMA*, 627 F. 2d at 1111.

We acknowledge, however, that conditions in California may one day improve such that it no longer has the need for a separate nonroad program to address certain air quality problems. The statute contemplates that such improvement is possible. PLF is incorrect in concluding that EPA's approach would lead to an absurd outcome. EPA would not deny an authorization request under section 209(e)(2)(A)(ii) unless it determined that the regulatory program was not needed because compelling and extraordinary conditions no longer exist in California. Furthermore, the basis for previously waived or authorized standards would remain valid unless EPA determined that the compelling and extraordinary conditions would not exist even without those standards in place. This is consistent with the intent of Congress to permit California to maintain separate emission standards when compelling and extraordinary conditions exist. Thus, there would be no absurd results regarding such standards.

Congress has directed EPA to exercise its technical judgment with regard to all three authorization criteria, but has not authorized EPA to substitute its policy judgment for California's judgment with regard to which of its specific standards are or are not needed to meet its compelling and extraordinary conditions. Those who oppose California regulations for reasons other than the three criteria that Congress specified in the statute have the ability to raise their legal, policy, and other concerns in the state administrative process, or through judicial review of the regulations themselves.

For these reasons, EPA believes that the better approach for analyzing the need for "such State standards" to meet "compelling and extraordinary conditions" is to review California's need for its program, as a whole, for the class or category of vehicles being regulated, as opposed to its need for the individual standards that are the subject of an authorization request.

2. Does California Need its Nonroad Program to Meet Compelling and Extraordinary Conditions?

Applying the traditional approach to application of the compelling and extraordinary circumstances criterion under section 209(e)(2)(A)(ii), EPA cannot deny the authorization of the Fleet Requirements on this basis.

CARB has repeatedly demonstrated the need for its nonroad program to address compelling and extraordinary conditions in California. As noted above, in its Authorization Request, CARB stated that the unique geographical and climatic conditions and the tremendous growth in California's onroad and nonroad vehicle population, giving rise to serious air quality problems and NAAQS nonattainment in California, still exist today and that nothing in these conditions has changed to warrant a change in this determination. As such CARB notes that there can be no doubt of the continuing existence of compelling and extraordinary conditions justifying California's need for its own mobile source emissions control program.

EPA received some comment from those that otherwise oppose the authorization but implicitly recognize the underlying compelling and extraordinary conditions in California. For example, the American Road and Transportation Builders Association (ARTBA) notes that it is "very supportive of both EPA and ARB's goal of reducing PM and NO<sub>x</sub> emissions," but "does not believe ARB has considered fully some of the air quality improvements already occurring in California and the nation. These improvements in air quality undercut the need for a measure as severe as the ARB proposal."<sup>82</sup> ARTBA notes that the air quality is significantly improving without the Fleet Requirements.<sup>83</sup> However, EPA received no evidence to suggest that California's air quality is improving to the point that it will attain the NAAQS for PM and ozone without the Fleet Requirements or that California continues to experience serious air quality concerns based on continuing compelling and extraordinary conditions, as EPA and CARB have

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<sup>82</sup> ARTBA at 2.

<sup>83</sup> *Id.*

outlined in this and previous actions. Based on the record, EPA is unable to identify any change in circumstances or any evidence to suggest that the conditions that Congress identified as giving rise to serious air quality problems in California no longer exist. As noted by CARB, there continue to be underlying compelling conditions in California giving rise to a significant number of California air basins that continue to be in nonattainment with NAAQS for PM<sub>2.5</sub> and ozone.

To the degree that commenters question the stringency of the Fleet Requirements or whether the emission reductions projected from this rule are needed, EPA received no comment that addressed the fundamental question of whether California continues to experience compelling and extraordinary conditions giving rise to the need of a nonroad emissions program. The design, or stringency of such an emission program, is irrelevant to EPA's review of section 209(e)(2)(A)(ii). Such review would be inconsistent with the express indication from Congress to provide California with the "broadest possible discretion" in selecting the best means to protect the health of its citizens and the public welfare. Accordingly, applying the traditional approach of reviewing the need for a separate California nonroad program to meet compelling and extraordinary conditions, EPA cannot deny the authorization based on this criterion.

### 3. In the Alternative, Does California Need Its Nonroad Fleet Requirements to Meet Compelling and Extraordinary Conditions?

As discussed above, EPA is maintaining its interpretation of section 209(e)(2)(A)(ii) as requiring a review of whether compelling and extraordinary conditions give rise to a need for a California nonroad emission program. Nevertheless, because EPA received comment urging an alternative interpretation (based on a review of whether the Fleet Requirements are per se needed to meet compelling and extraordinary conditions) and because we received other comments concerning the specific need for or benefits of the Fleet Requirements, EPA has also evaluated this criterion in the alternative by reviewing the Fleet Requirements separately.

Although EPA received a wide variety of comments questioning the “need” for CARB’s Fleet Requirements, we did not receive any comments or explanation as to how an evaluation of “need” should be performed by EPA. As discussed below, in light of the lack of criteria by which to judge such need (including how to weigh or balance evidence and provide CARB with the requisite policy deference described above), the lack of any explanation of the relevant facts that EPA must or could consider, and the failure of commenters to satisfy their burden of proof to overcome CARB’s stated need for its Fleet Requirements, even if EPA were to apply the alternative interpretation proposed by commenters, the agency would be unable to make an affirmative finding under section 209(e)(2)(A)(ii). Therefore, EPA is unable to deny CARB’s request on this basis.

a. California’s Air Quality Today and Moving Forward

The Agency received a number of comments suggesting that California’s air quality is improving on its own. ARTBA notes that levels of PM<sub>2.5</sub> and NO<sub>x</sub> have declined significantly since 1980 and since 2001, while numerous economic indicators have increased. The Associated General Contractors of America (AGC) note the significant decline in emissions from off-road diesel equipment due to a decline in activity and other factors. The Construction Industry Air Quality Coalition (CIAQC) claims that emissions from the existing fleet are naturally declining and that additional regulation is not needed to reach the emission levels CARB attributes to implementation of the Fleet Requirements. The California Construction Trucking Association (CCTA) and CIAQC state that CARB’s emission modeling was overstated and continues to be inaccurate because it presumes too optimistic a scenario of economic recovery and therefore more activity and emissions from nonroad fleets than there actually has been. We also received comments that the cost of CARB’s regulation compared to the benefits supports a finding that

such standards are not needed, and that the health benefits are either overstated or non-existent. In related comments, commenters stated that the Fleet Requirements are likely to do harm to the public health of Californians and that the economic impacts of the regulation are likely to lead to significant adverse health effects.<sup>84</sup> We also received comment from Altfillisch Contractors (ACI) suggesting that the California Environmental Quality Act (CEQA) renders the Fleet Requirements unnecessary.

CARB explains in its comments that for areas that exceed the NAAQS, California is responsible under the CAA section 110 for developing a state implementation plan (SIP) that describes how the state will attain the standards by certain deadlines.

CARB notes that its Fleet Requirements are part of an integral strategy to attain the NAAQS in both the San Joaquin Valley Air Basin and South Coast Air Basin. CARB notes there is no question that areas of California continue to be in nonattainment for PM<sub>2.5</sub>, as well as for ozone, and that the Fleet Requirements and other regulations and incentives are needed to achieve attainment.<sup>85</sup> Additionally, CARB states that despite the economic recession and

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<sup>84</sup> These comments are addressed in the “protectiveness” or section 209(e)(2)(i) discussion above. As discussed in that section, the Agency believes it appropriate to limit our examination to the specific effects the California and EPA emission standards have on emissions rather than performing an analysis of social impacts or other secondary implications. The determination of how numerous possible impacts of emission regulation can or should be weighed in determining public policy is one inherently directed to the regulatory authority promulgating the regulation, not to an authority whose limited role is to review the regulations based on three narrow criteria and who has been directed by Congress to provide broad discretion in its review.

<sup>85</sup> CARB notes in its Authorization Request that two air basins in California – South Coast Air Basin and San Joaquin Valley Air Basin – are in nonattainment for both PM<sub>2.5</sub> and the 8-hour ozone standard. This nonattainment is based on the 2006 NAAQS for PM (71 FR 61144, October 17, 2006) and which EPA has subsequently made more stringent in 2012 (78 FR 3086, January 15, 2013). The nonattainment for ozone is based on EPA’s 2008 NAAQS 8-hour ozone standard (73 FR 16436 (March 27, 2008)). CARB notes that significant emission reductions of NO<sub>x</sub> are needed because it leads to formation in the atmosphere of ozone and PM<sub>2.5</sub>, and that diesel PM emission reductions are also needed because diesel PM contributes to ambient concentrations of PM<sub>2.5</sub>.

California submitted a revision to its SIP (State Strategy) in 2007 for the South Coast and San Joaquin Valley Air Basins that demonstrates attainment of the PM<sub>2.5</sub> standard by 2014 (needed by 2015), but only after achieving significant reductions of PM<sub>2.5</sub> (and NO<sub>x</sub>). In addition, additional reductions of NO<sub>x</sub> emissions are needed to achieve the 8-hour ozone standard by 2023. EPA approved the Stated Strategy for both PM<sub>2.5</sub> and NO<sub>x</sub> for the South Coast and San Joaquin Air Basins on November 9, 2011 and March 1, 2012, respectively. CARB projects that the Fleet Regulations will achieve a 17 percent reduction in NO<sub>x</sub> emissions and a 21 percent reduction in PM<sub>2.5</sub> emissions in 2023 that would not occur without the regulation and that Fleet Requirements are an integral part of the



downward revisions to the in-use off-road emissions inventory, off-road diesel vehicles remain a significant source of emissions.<sup>86</sup> Thus, CARB states, there continues to be a strong need for further regulation of all emission source categories, including off-road vehicles. “As EPA has long-confirmed, questions of what sources to regulate and how to regulate them are policy questions that Congress has determined is best left to the State.”<sup>87</sup>

CARB also notes, and the EPA agrees, that the CEQA does not render the Fleet Requirements unnecessary. The purposes of the CEQA and the Fleet Requirements are different. The CEQA, which is applied in only a few air districts, is essentially designed to identify when projects will result in significant harm and to mitigate that harm (to make sure air quality does not worsen), whereas the Fleet Requirements are proactive measures applicable statewide as part of coordinated strategy designed to improve air quality throughout the state.

EPA believes that CARB’s initial filings and additional submissions to the record, responding to arguments that the Fleet Requirements are not needed because of the economic downturn and because of CARB’s overestimation of inventory and emissions, are reasonable. Mere assertions by commenters that CARB’s most recent emission modeling is inaccurate do not meet the burden of proof to demonstrate otherwise. As noted above, CARB has submitted updated estimates of projected emission reductions expected from the Fleet Requirements, and there is no evidence in the record to demonstrate that CARB’s projections are unreasonable. EPA further finds that the opponents have not met their burden of demonstrating that such considerations would render the Fleet Requirements unnecessary. In adopting the 2010

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SIP and are laid out in EPA’s proposed rulemaking to approve the State Strategy and that no “margin of safety” otherwise exists.

<sup>86</sup> CARB notes in its Written Comments at 10-11 that the Fleet Requirements are part of the approved SIP for the South Coast and San Joaquin valley, both extreme nonattainment areas for ozone and nonattainment for PM<sub>2.5</sub> and that specific emission benefits from the Fleet Requirements are laid out in EPA’s proposed rulemaking to approve the State Strategy.

<sup>87</sup> CARB Written Comments at 12-13.

amendments, CARB acknowledged that past and future emissions from in-use nonroad CI vehicles were significantly lower than originally projected, and CARB states that the amendments for which authorization is requested provide economic relief to fleets while still achieving the emission reductions necessary to attain federal ambient air quality standards (NAAQS). CARB indicates that despite the smaller inventory contribution from in-use nonroad CI engines than CARB projected in the initial rulemaking, emissions from these engines still represent a significant portion of the overall emissions inventory. The opponents provide no evidence to refute CARB's assertion that despite the economic recession and revised inventory, the in-use nonroad CI fleet remains a significant source of emissions.

Moreover, as CARB notes, there continues to be a strong need for emission reductions from all emission categories, including the in-use nonroad CI fleet, to meet the PM<sub>2.5</sub> and ozone NAAQS. As CARB notes, it is not for EPA to decide which types of sources to regulate and in what manner to do so.<sup>88</sup> Congress intended to leave such policy questions in the hands of the state. As discussed below, EPA finds that CARB has promulgated the Fleet Requirements, in part, to satisfy its PM<sub>2.5</sub> and 8-hour ozone NAAQS requirements and no evidence exists in the record to explicitly demonstrate why the emission reductions projected by CARB are not needed in order to meet California's NAAQS obligations.

Lastly, CARB restates its legal obligation to achieve PM emission reductions and the expected benefits associated with the Fleet Requirements:

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<sup>88</sup> Consistent with *MEMA I*, the Agency has evaluated costs in this authorization in the evaluation of the technological feasibility below. The Agency looks at the actual cost of compliance in the time provided by the regulation, not the regulation's cost-effectiveness. The appropriate cost-effectiveness for a regulation is a policy decision of California that is considered and made when California adopts the regulations, and EPA, historically, has deferred to these policy decisions. EPA has stated in this regard, "the law makes it clear that the waiver request cannot be denied unless the specific findings designated in the statute can be made. The issue of whether a proposed California requirement is likely to result in only marginal improvement in air quality not commensurate with its cost or is otherwise an arguably unwise exercise of regulatory power is not legally pertinent to my decision under section 209. Therefore, EPA declines to review CARB's Fleet Requirements for their cost-effectiveness or the cost-benefits of the regulation in the context of any of the authorization criteria set forth in section 209(e)(2).

ARB adopted the Off-Road regulation, in part, to meet California's legal obligations under federal law to achieve attainment with the NAAQS for PM<sub>2.5</sub> by 2014. The emission reductions in the regulation are critical to attaining federally mandated air quality standards. Primary diesel PM emissions are a significant contributor to overall PM<sub>2.5</sub>. In 2008, 20,600 tons of diesel PM were emitted in California. The present amendments to the Off-Road regulation have been adopted to accommodate the economic hardship of affected businesses while still meeting the legal requirements and protecting the public health of all Californians.<sup>89</sup>

In order to properly evaluate whether California has a need for its Fleet Requirements under the alternative approach to section 209(e)(2)(A)(ii) described above, EPA believes it would be necessary only to examine whether the identified “compelling and extraordinary conditions” in California are giving rise to an air quality problem that CARB seeks to address with the Fleet Requirements. EPA has received no comment suggesting that EPA's historically recognized “conditions” in California (e.g. geographic and climatic conditions, number of vehicles operating in California, etc.) do not continue to give rise to elevated concentrations of particulate matter and NO<sub>x</sub>. In addition, EPA has received no comment rebutting CARB's statement that it is legally required to demonstrate compliance with the CAA's NAAQS requirements (for PM<sub>2.5</sub> and 8-hour ozone) and that CARB is currently committed to achieve such compliance in part through the promulgation of emission standards such as its Fleet Requirements. As noted by CARB, the Fleet Requirements were initially set in response to the NAAQS requirements for PM<sub>2.5</sub> and the 8-hour ozone set in 2006 and 2008, respectively. The state of California has a greater level of nonattainment under those NAAQS than other states. Since that time, EPA in 2012 has completed review of the PM NAAQS and has strengthened the primary annual standard for PM<sub>2.5</sub>, and California continues to set regulations in response to such requirements.<sup>90</sup> EPA believes that to the extent that a review of the need for the Fleet

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<sup>89</sup> *Id.*

<sup>90</sup> 78 FR 3086 (January 15, 2013).

Requirements (as opposed to CARB's nonroad program) is required, that CARB has reasonably demonstrated such need due to its obligation to comply with federal law (including section 110 of the CAA); CARB needs its Fleet Requirements and a host of other regulatory measures in order to adequately meet its SIP obligations. Because EPA has received additional comment suggesting that the PM conditions in California are not a serious air quality issue the Agency addresses those comments below.

b. PM Health Effects

EPA received several comments that question the public health benefits associated with the Fleet Requirements. EPA received comment stating that PM<sub>2.5</sub>, and specifically PM<sub>2.5</sub> from diesel combustion, does not present a public health risk in general,<sup>91</sup> and that there is no measurable or detectable relationship between PM<sub>2.5</sub> and mortality.<sup>92</sup> Separately EPA also received comment that PM<sub>2.5</sub> from diesel combustion located in California does not present a public health risk.

With regard to the suggestion that PM<sub>2.5</sub> from diesel combustion does not present a public health risk, EPA received comment stating that “the claimed toxic effects of diesel particulate matter are hundreds of times smaller than, for example, the increased risk of lung cancer caused

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<sup>91</sup> EPA received only one comment suggesting that NO<sub>x</sub> and ozone do not pose a public health issue. This comment did not include any data or other evidence to support this assertion. *See* Milloy written testimony.

<sup>92</sup> *See* Milloy. EPA notes that Mr. Milloy, who submitted comment on behalf of the California Construction Trucking Association, separately brought litigation against EPA in which he signed a sworn declaration comparing exposure of human test subjects being voluntarily exposed to forms of particulate matter to Nazi death camp experimentation. Declaration of Steven J Milloy in Case 1:12-cv-01066-AJT-TCB pp. 2-3; *see also* the complaint in the same matter which states that such studies “ris[k] the lives and health of human study subjects” and that “Mr. Milloy is appalled by this inhumanity”(complaint para. 15). These sworn statements are diametrically at odds with Mr. Milloy's presentation and testimony here that exposure to particulate matter does not pose a public health concern. Needless to say, when a commenter publically espouses positions that are at a 180 degree remove from each other, the credibility of the assertions is greatly diminished. This lawsuit was dismissed as lacking any legal basis. Dr.Enstrom states in his comment “There is now overwhelming epidemiologic evidence that PM<sub>2.5</sub> and diesel PM are not related to total mortality in California. This evidence has most recently been summarized in my thirteen-page September 28, 2012 paper, “Particulate Matter is Not Killing Californians. This paper was presented on August 1, 2012 at the American Statistical Association Joint Statistical Meeting in San Diego. It is currently posted online and will be published later this year in the 2012 JMS Proceedings (<http://www.scientificintegrityinstitute.org/ASAS092812.pdf>).”

by cigarette smoking. This commenter asserts that these possible effects are smaller than any previously discovered in medical history, the actual exposure levels are so difficult to estimate, and there are so many confounding health factors (smoking and lifestyle) that are impossible to control, that the entire scientific basis of the regulatory policy needs to be broadly re-assessed before allowing CARB any kind of waiver in PM<sub>2.5</sub> enforcement.”<sup>93</sup>

EPA also received comment questioning whether PM<sub>2.5</sub> from diesel exhaust is causing cancer, premature death, or other health effects in California. For example, one commenter stated that “we don’t know yet” and we “can’t rule out” that exposure to diesel PM might statistically be related to zero premature deaths.<sup>94</sup> This commenter suggests that the toxic effects of diesel particulate matter are so small that the scientific basis for concerns about PM<sub>2.5</sub> impacts on health needs to be re-assessed before EPA authorizes California’s regulation. This commenter maintains that science does not know yet if fine particulate matter is causing cancer and the premature death of a measurable number of Californians, and that other factors like smoking and lifestyle may confound any effects.<sup>95</sup> EPA also received comment suggesting that the scientific evidence on the health effects of particulate air pollution (specifically PM<sub>2.5</sub>) in California does not support its further control or regulation at this time. This commenter maintains that “[o]ur PM<sub>2.5</sub> is different in composition and is less toxic than that in many Eastern regions of the U.S.”<sup>96</sup> In addition, two commenters stated that strong epidemiologic evidence shows ambient PM<sub>2.5</sub> and diesel PM is not related to total mortality in California.<sup>97</sup> The commenters also note

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<sup>93</sup> See Dr. Malken.

<sup>94</sup> See Dr. Malken. This commenter also suggests that the PM<sub>2.5</sub> from diesel exhaust in California might be inherently different than the PM studied in the eastern half of the United States.

<sup>95</sup> *Id.* at 2.

<sup>96</sup> See Dr. Phalen.

<sup>97</sup> See Delta and Dr. Enstrom. Delta also comments that the least healthy county in California has low diesel PM air concentrations, but high poverty and unemployment levels. Delta states that California is the fourth healthiest state as measured by premature death rates. EPA notes that Delta makes no attempt to connect these general views on health with the specific issue of whether emissions of PM<sub>2.5</sub> have any effect on health.

studies published in 2005 and 2011 for support.<sup>98</sup> One commenter notes the 2011 study for California-specific evidence regarding PM<sub>2.5</sub> and diesel PM and mortality and claims it demonstrates no current relationship between PM<sub>2.5</sub> and mortality in California and may show no scientific or public health justification for this regulation.<sup>99</sup>

Separately, the commenter also takes issue with EPA's Regulatory Impact Analysis for its proposed PM NAAQS rule (which has since been finalized), claiming the Regulatory Impact Analysis is misleading and contains omissions.<sup>100</sup>

Lastly, we received comment from CCTA that references a paper titled "Mortality Among Members of a Truck Driver Trade Association" (Truck Driver study) suggesting that any research on exposure to diesel exhaust should necessarily include truck drivers. CCTA maintains that the study results indicate that those in closest proximity and duration of high levels of exposure to diesel exhaust don't seem to share the same deleterious effects to exposure claimed in other studies.

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<sup>98</sup> See Dr. Enstrom and Dr. Malken. Dr. Malken claims that the CARB-funded Jerrett et al (2011) study of the LA subset of ACS data was the only one which utilized data from particle monitors and "they found no significant correlation between PM<sub>2.5</sub> and 'premature deaths.'" This commenter also states that weighing all of the studies that CARB has considered is more a matter of subjective taste than a scientific process and that CARB has "cherry-picked" the few results that have supported their position.

<sup>99</sup> Dr. Enstrom. This commenter maintains that EPA's June 2012 "Regulatory Impact Analysis related to the Proposed Revisions to the National Ambient Air Quality Standards for Particulate Matter" erroneously concluded that "most of the cohort studies conducted in California report central effect estimates similar to the (nation-wide) all-cause mortality risk estimate but EPA's Table 5 B-10 was inaccurate or misleading, including the hazard ratio used from his 2005 paper. EPA notes that the proper place to contest the methodology and findings of the Agency in its NAAQS review process is in that federal context. This commenter also claims that "[a] glaring omission was the detailed evidence from the October 28, 2011 CARB-funded Report, "Spatiotemporal Analysis of Air Pollution and Mortality in California Based on the American Cancer Society Cohort: Final Report," by Drs. Michael Jerrett, Richard T. Burnett, C. Arden Pope III, Daniel Krewski, Michael Thun, and nine others <http://www.scientificintegrityinstitute.org/JerrettCriticism102811.pdf>). This commenter also claims that his September 28, 2012 paper summarizes the epidemiologic evidence that PM<sub>2.5</sub> and diesel PM are not related to total mortality in California.

<sup>100</sup> *Id.*

In response to claims that the Fleet Requirements are not needed because there is no causal connection existing between PM<sub>2.5</sub> exposure and premature mortality and other health effects, CARB states:

Staff carefully reviewed all peer-reviewed studies that have been performed in the United States on the relationship between long-term PM<sub>2.5</sub> exposure and mortality, as has the U.S. EPA in its recent review of the National Ambient Air Quality Standard for particulate matter. U.S. EPA's 2009 science assessment states "Collectively, the evidence is sufficient to conclude that the relationship between long-term PM<sub>2.5</sub> exposures and mortality is causal." U.S. EPA and ARB have critically evaluated the methods used in each study so that we can place the most weight on the studies that have used the strongest methodologies.... ARB's conclusions about the relationship between long-term exposure to PM<sub>2.5</sub> and mortality are aligned with the findings of the U.S. EPA, the World Health Organization, Health Canada, and the British government. Those findings have been publicly peer reviewed by multiple independent bodies worldwide.<sup>101</sup>

With respect to the questions about the health effects associated with exposure to diesel exhaust PM, CARB notes:

Staff agrees that ambient PM<sub>2.5</sub> arises from many different sources, including diesel exhaust, and there are no established methods for routinely measuring the concentration of PM<sub>2.5</sub> in ambient air from any specific source. Diesel PM is primarily less than 2.5 microns in diameter, and consequently falls into the PM<sub>2.5</sub> size category. As discussed above, exposure to PM in this size fraction is strongly associated with premature death. Also, the results of animal exposure studies suggest that diesel PM is at least as toxic as other species within this size range.<sup>102</sup>

Further, with respect to questions about the specific health effects of diesel exhaust PM in California, CARB cites, in its responsive comments during the waiver proceeding, the large body of peer-reviewed scientific studies evaluated by CARB and EPA that have identified a broad range of health effects associated with PM<sub>2.5</sub> exposures.<sup>103</sup> CARB states that "[t]he national studies reviewed by the U.S. EPA for the NAAQS assessment apply to California. In fact, as part of the federal standards review process, U.S. EPA estimated the premature deaths associated

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<sup>101</sup> See CARB Written Comments.

<sup>102</sup> *Id.*

<sup>103</sup> *Id.* at 12, *citing* attachments 1-3.

with PM<sub>2.5</sub> in two California cities – Los Angeles and Fresno.”<sup>104</sup> CARB also cites EPA’s Quantitative Health Risk Assessment, which estimates that, based on 2005 ambient mean levels of PM<sub>2.5</sub>, approximately 63,000 to 80,000 premature deaths each year are related to PM<sub>2.5</sub> exposures in the United States. CARB also conducted its own California-focused study, which estimated that in California, exposure to PM<sub>2.5</sub> results in approximately 9,200 deaths each year.<sup>105</sup> In further comments, CARB states that the pre-2010 studies cited by Drs. Enstrom and Malkan in their comments were reviewed by CARB, as well as by the EPA in the development of the PM Integrated Science Assessment (ISA).

Separately, CARB also reviewed the 2011 Jerrett et al. study, referenced by commenters.<sup>106,107</sup> CARB notes that the study found that “[c]ardiovascular disease (CVD) deaths, particularly those from ischemic heart disease (IHD), are consistently and robustly associated with fine particulate and traffic-related air pollution. The effects on CVD and IHD in California are virtually identical to those of the national ... study.” The study also found that “[a]ll-cause mortality is significantly associated with PM<sub>2.5</sub> exposure, but the results are sensitive to statistical model specification and to the exposure model used to generate the estimates.”<sup>108</sup>

CARB also included a copy of the 2011 Jerrett et al. study in its comments and indicated the study reached the following conclusion:

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<sup>104</sup> *Id.*

<sup>105</sup> CARB Written Comments at 12, *citing* attachments 1 and 2 of its October 19, 2012 submissions to EPA, including the “Estimate of Premature Deaths Associated with Fine Particle Pollution (PM<sub>2.5</sub>) in California Using a U.S. Environmental Protection Agency Methodology,” August 31, 2010.

<sup>106</sup> CARB Supplemental Comments.

<sup>107</sup> The Jerrett et al., 2011 report was not included in EPA’s PM ISA because it was completed after the ISA was published. It was also not included in the Provisional Science Assessment because it was not a peer-reviewed publication at the time. However, the work conducted by Jerrett et al. was recently published and can now be found in the peer-reviewed literature [<http://www.atsjournals.org/doi/pdf/10.1164/rccm.201303-0609OC>]. EPA will consider this study in the next round of NAAQS reviews that include PM. We note, however, that the inclusion or exclusion of one report such as Jerrett would not materially change the large body of scientific evidence indicating an effect of PM<sub>2.5</sub> exposure on human health.

<sup>108</sup> CARB Supplemental Comments at 13, *citing* “Spatiotemporal Analysis of Air Pollution and Mortality in California Based on the American Cancer Society Cohort: Final Report,” Michael Jerrett, PhD, 2011, at 6-7.



Taken together, the results from this investigation indicate consistent and robust effects of PM<sub>2.5</sub> – and other pollutants commonly found in the combustion-source mixture with PM<sub>2.5</sub> – on deaths from CVD and IHD. We also found significant associations between PM<sub>2.5</sub> and all causes of death, although these findings were sensitive to model specification. In Los Angeles, where the monitoring network is capable of detecting intra urban variations in PM<sub>2.5</sub>, we observed large effects on death from all causes, CVD, IHD, and respiratory disease. These results were consistent with past ACS [American Cancer Society cohort] analyses and with findings from other national or international studies reviewed in this report. Our strongest results were from a land use regression estimate of NO<sub>2</sub>, which is generally thought to represent traffic sources, where significant elevated effects were found on deaths from all causes, CVD, IHD, and lung cancer. We therefore concluded that combustion-source air pollution is significantly associated with premature death in this large cohort of Californians.<sup>109</sup>

EPA will address in turn: (1) suggestions that PM<sub>2.5</sub> does not present a public health risk in general; (2) suggestions that PM<sub>2.5</sub> from diesel combustion does not present a public health risk; and (3) suggestions that PM<sub>2.5</sub> from diesel combustion located in California does not present a public health risk.

EPA disagrees with the commenters regarding the evidence associated with PM exposure in the context of all three suggestions noted above.

Regarding the claim that there is no link between health effects, including mortality, and exposure to PM<sub>2.5</sub>, EPA disagrees with this comment and notes the large body of scientific literature that was thoroughly evaluated during the NAAQS review process is discussed in detail in EPA's Integrated Science Assessment (ISA) for Particulate Matter.<sup>110</sup> The ISA characterizes the weight of evidence for different health effects and makes causal determinations for both short-term (i.e., hours to days) and long-term (i.e., months to years) exposures to PM<sub>2.5</sub>, PM<sub>10-2.5</sub>, and ultrafine particles. Specifically in the ISA, the EPA carefully evaluated and integrated the scientific evidence from across epidemiological, toxicological and controlled human exposure

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<sup>109</sup> *Id.*

<sup>110</sup> U.S. EPA. (2009). Integrated Science Assessment for Particulate Matter (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-08/139F. Docket entry EPA-HQ-OAR-2008-0691-0318-attachments 2.1 through 2.5

studies to make inferences about causality. The PM ISA considered and assessed an extensive body of scientific information, all of which had undergone peer-review prior to being published.<sup>111</sup>

Overall, the PM ISA provides a concise evaluation and integration of the policy-relevant science. This includes key science judgments upon which EPA based its Quantitative Health Risk Assessment for Particulate Matter (PM RA, U.S. EPA, 2010), and the Policy Assessment for the Review of Particulate Matter National Ambient Air Quality Standards (PM PA, U.S. EPA, 2011).<sup>112</sup> These documents informed EPA's 2012 rule completing review of the PM NAAQS.<sup>113</sup>

After a thorough evaluation and integration of the evidence across scientific disciplines, the PM ISA made causal determinations for the health effects associated with both short- and long-term exposures to PM<sub>2.5</sub>.<sup>114</sup> For short-term exposures, the PM ISA concludes that

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<sup>111</sup> *Id.* at 1-22. See <http://www.epa.gov/ttn/naaqs/standards/pm/data/20121214rtc.pdf> at II-9 to II-12 for discussion of EPA's application of its framework for causal determinations and recognition of the distinction between evaluating the relative scientific quality of individual study results and the evaluation of the pattern of results within the broader body of scientific evidence. This discussion also addresses allegations of cherry-picking studies and ignoring studies that reported no association with PM<sub>2.5</sub>.

<sup>112</sup> See EPA-HQ-OAR-2008-0691-0318-attachment 3 and <http://yosemite.epa.gov/sab/sabproduct.nsf/368203f97a15308a852574ba005bbd01/8bee96ad3228eabe8525760400702786!OpenDocument>

<sup>113</sup> EPA incorporates by reference our 2012 PM NAAQS review and associated rulemaking documents. EPA also notes that the reasoning and conclusions reached in the PM NAAQS review are not being revisited in the context of this authorization decision but are cited for the purposes of demonstrating the vast body of peer reviewed evidence and findings that is not contravened by the few studies submitted by commenters to the authorization docket. EPA also states that to the extent the comments take issue with the determinations made in the context of the PM NAAQS rulemaking, the proper place to bring challenges to those decisions would be in the context of that rule.

<sup>114</sup> *Id.* EPA also noted in this Response to Significant Comments document that "The EPA's evaluation of the scientific evidence and its application of the causal framework used in the current PM NAAQS review was the subject of exhaustive and detailed review by CASAC and the public. Prior to finalizing the ISA, two drafts were released for CASAC and public review to evaluate the scientific integrity of the documents. Evidence related to the substantive issues raised by CASAC and public commenters with regard to the content of the first and second draft ISAs were discussed at length during these public CASAC meetings and considered in developing the final ISA. CASAC supported the development of the EPA's causality framework and its use in the current PM NAAQS review and concluded: The five-level classification of strength of evidence for causal inference has been systematically applied; this approach has provided transparency and a clear statement of the level of confidence with regard to causation, and we recommend its continued use in future Integrated Science Assessments (Samet 2009f, p. 1)." (At II-9).

cardiovascular effects (e.g., emergency department (ED) visits and hospital admissions for ischemic heart disease (IHD) and congestive heart failure (CHF), changes in cardiovascular function, and myocardial ischemia), and premature mortality are causally associated with short-term exposure to PM<sub>2.5</sub>. It also concludes that respiratory effects (e.g., ED visits and hospital admissions for chronic obstructive pulmonary disease (COPD), respiratory infections, and asthma; and exacerbation of respiratory symptoms in asthmatic children) are likely to be causally associated with short-term exposure to PM<sub>2.5</sub>. For long-term exposures, the PM ISA concludes that there are causal associations between long-term exposure to PM<sub>2.5</sub> and cardiovascular effects, such as the development/progression of cardiovascular disease (CVD), and premature mortality, particularly from cardiovascular causes. It also concludes that long-term exposure to PM<sub>2.5</sub> is likely to be causally associated with respiratory effects, such as reduced lung function growth, increased respiratory symptoms, and asthma development. The ISA characterizes the evidence as suggestive of a causal relationship for associations between long-term PM<sub>2.5</sub> exposure and reproductive and developmental outcomes, such as low birth weight and infant mortality. It also characterizes the evidence as suggestive of a causal relationship between PM<sub>2.5</sub> and cancer incidence, mutagenicity, and genotoxicity.<sup>115</sup> EPA's evaluation of the studies presented in the ISA, as well as the causal framework and determinations upon which the Assessment is based, have undergone extensive critical review by the EPA, CASAC, and the public during its development. The rigor of the review makes the ISA the most reliable source of scientific information on the subject of PM and health and welfare effects.

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<sup>115</sup> U.S. EPA. (2009). Integrated Science Assessment for Particulate Matter (Final Report) (ISA). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-08/139F. Section 2.3.5 and Table 2-6. EPA also notes that the ISA assessed the body of scientific evidence regarding particles available through mid-2009, which included over two thousand new studies. The ISA received two rigorous rounds of peer review by the independent Clean Air Scientific Advisory Committee (CASAC) and two draft PM ISAs were made available for public review and comment.

Additionally, new health studies published since the completion of the ISA were discussed in EPA's Provisional Science Assessment (U.S. EPA, 2012), which was used to ensure the Administrator was fully aware of the "new" science that developed since 2009 before making final decisions on whether to retain or revise the ambient PM standards. Overall, the new health studies were found not to materially change the conclusions of the 2009 ISA. As in prior NAAQS reviews, the EPA based its final decisions on the studies and related information included in the ISA, RA, and PA which had undergone CASAC and public review. To the extent that the commenters attempt to introduce new arguments or new studies that have not been peer-reviewed, including the 2011 Jerrett study, EPA believes the new science published after the ISA does not materially change the conclusions found within the ISA.<sup>116</sup> As noted above, EPA has recently concluded its PM NAAQS review. No comments submitted in the context of this authorization proceeding lead the Agency to reassess (for purposes of this authorization) the findings related to PM exposure and health effects. EPA notes that the study referenced by Mr. Milloy in his comments was never provided to EPA nor has EPA found it in the peer-reviewed literature. Therefore EPA has no basis to review the technical methods used or the summary results.<sup>117</sup>

With regard to suggestions that PM<sub>2.5</sub> from diesel combustion does not present a public health risk or assertions that PM<sub>2.5</sub> composition is determinative to risk, EPA believes that the available scientific evidence linking mortality and morbidity effects with long-and short-term exposures to fine particles continue to be largely indexed by PM<sub>2.5</sub> mass. In the PM NAAQS

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<sup>116</sup> *Id.* EPA is only reviewing the comments submitted to the EPA-HQ-OAR-008-0691 public docket for CARB's authorization request and EPA the responses to such comments are not intended to imply that EPA is engaged in a reexamination of the issues thoroughly examined in the recent PM NAAQS review.

<sup>117</sup> EPA is only reviewing the comments submitted to the EPA-HQ-OAR-2008-0691 public docket for CARB's authorization request and EPA's responses to such comments are not intended to imply that EPA is engaged in a reexamination of the issues thoroughly examined in the recent PM NAAQS review.

review completed in 2012, EPA concluded that it was appropriate to retain PM<sub>2.5</sub> as the indicator for fine particles due to the inability to differentiate those components or sources that are more closely related to specific health outcomes nor to exclude any component or group of components from the mix of fine particles included in the PM<sub>2.5</sub> indicator. As EPA previously stated in the ISA “overall, the results indicate that many constituents of PM can be linked with differing health effects and the evidence is not yet sufficient to allow differentiation of those constituents or sources that are more closely related to specific health outcomes.”<sup>118</sup>

With regard to suggestions that EPA did not properly consider prior reports (including the 2005 Dr. Enstrom study), EPA notes the Enstrom study was included in summary figures depicting the totality of the evidence for long-term PM<sub>2.5</sub> exposure and mortality.<sup>119</sup> It is important to note that Dr. Enstrom based his comments solely on statistical significance. Another commenter also asserts that studies looking at associations between PM and premature mortality do not have statistically significant results.<sup>120</sup> EPA responded in the NAAQS rulemaking to the issue of relying on statistical significance and why it is not appropriate to only focus on it when evaluating a body of evidence.<sup>121</sup> Specifically, EPA stated:

Statistical significance is an indicator of the precision of a study’s results, which is influenced by a variety of factors including, but not limited to, the size of the study, exposure and measurement error, and statistical model specifications.

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<sup>118</sup> See ISA at 2-26.

<sup>119</sup> EPA noted that an association was reported for long-term PM<sub>2.5</sub> exposure with all-cause deaths from 1973-1982. However, no significant associations were reported with deaths in later time periods when PM<sub>2.5</sub> levels had decreased in the most polluted counties (1983-2002). The PM<sub>2.5</sub> data were obtained from the EPA’s Inhalation Particle Network (collected 1979-1983), and the locations represented a subset of data used in the 50-city ACS study (Pope et al., 1995, 045159). However, the use of average values for California counties as exposure surrogates likely leads to significant exposure error, as many California counties are large and quite topographically variable. ISA, at 7-85.

<sup>120</sup> See Dr. Malkan.

<sup>121</sup> See “Responses to Significant Comments on the 2012 Proposed Rule on the National Ambient Air Quality Standards for Particulate Matter (June 29, 2012; 77 FR 38890). <http://www.epa.gov/ttn/naaqs/standards/pm/data/20121214rtc.pdf> at II-9 to II-12 for discussion of EPA’s application of its framework for causal determinations and recognition of the distinction between evaluating the relative scientific quality of individual study results and the evaluation of the pattern of results within the broader body of scientific evidence.

Statistical significance is just one of the means of evaluating the validity of the relationships determined with epidemiological studies. The EPA can reasonably look to other indicia of reliability such as the consistency and coherence of a body of studies as well as other confirming data to justify reliance on the results of a body of epidemiological studies, even if individual studies may lack statistical significance. *American Trucking Association v. EPA*, 283 F. 3d 355, 371 (D.C. Cir. 2002). As a result, in developing an integrated assessment of the health effects evidence for PM, the EPA has emphasized the importance of examining the pattern of results across various studies and their coherence and consistency, and has not focused solely on statistical significance as a criterion of study reliability.

It has been clearly articulated throughout the epidemiological and causal inference literature that it is important not to focus on results of statistical tests to the exclusion of other information. For example, Rothman (1998) stated: “Many data analysts appear to remain oblivious to the qualitative nature of significance testing [and that]... statistical significance is itself only a dichotomous indicator. As it has only two values, significant or not significant.” As a result, Rothman recommended that P-values be omitted as long as point and interval estimates are available.

The concepts underlying the EPA’s approach to evaluating statistical associations reported for the health effects on PM<sub>2.5</sub> have been discussed in numerous publications, including a report by the U.S. Surgeon General on the health consequences of smoking (Centers for Disease Control and Prevention, 2004). This report cautions against overreliance on statistical significance in evaluating the overall evidence for an exposure-response relationship: Hill made a point of commenting on the value, or lack thereof, of statistical testing in the determination of cause: “No formal tests of significance can answer those [causal] questions. Such tests can, and should, remind us of the effects the play of chance can create, and they will instruct us in the likely magnitude of those effects. Beyond that, they contribute nothing to the ‘proof’ of our hypothesis” (Hill 1965, p. 299). Hill’s warning was in some ways prescient, as the reliance on statistically significant testing as a substitute for judgment in a causal inference remains today (Savitz et al., 1994; Holman et al., 2001; Poole 2001). To understand the basis for this warning, it is critical to recognize the difference between inductive inferences about the truth of underlying hypotheses, and deductive statistical calculations that are relevant to those inferences, but that are not inductive statements themselves. The latter include p values, confidence intervals, and hypothesis tests (Greenland 1998; Goodman 1999). The dominant approach to statistical inference today, which employs those statistical measures, obscures this important distinction between deductive and inductive inferences (Royall 1997), and has produced the mistaken view that inferences flow directly and inevitably from data. There is no mathematical formula that can transform data into a probabilistic statement about the truth of an association without introducing some formal quantification of external knowledge, such as in

Bayesian approaches to inference (Goodman 1993; Howson and Urbach, 1993). Significance testing and the complementary estimation of confidence intervals remain useful for characterizing the role of chance in producing the association in hand (CDC, 2003, pp. 23 to 24).

Accordingly, the statistical significance of findings from an individual study has played an important role in the EPA's evaluation of the study's results and overall the EPA has placed greater emphasis on studies reporting statistically significant results in making determinations as to the elements of the standard. In particular, as noted in section III.E.4.b.i of the preamble to the final rule, the EPA identified long- and short-term exposure studies considered "key" multi-city studies for consideration for informing the decisions on the appropriate standard levels and included those studies observing effects for which the evidence supported a causal or likely causal association. Figure 4 in the preamble to the final rule (also Figure 4 in the proposal, 77 FR 38933) represents the subset of multi-city studies included in Figures 1 through 3 of the preamble to the final rule (also Figures 1 through 3 in the proposal, 77 FR 38929 to 38931) that provided evidence of positive and generally statistically significant effects associated in whole, or in part, with more recent air quality data, generally representing health effects associated with lower PM<sub>2.5</sub> concentrations than had previously been considered in the last review.

The EPA notes that many of these studies evaluated multiple health endpoints, and not all of the effects evaluated provided evidence of positive and statistically significant effects. For purposes of informing the Administrator's decision on the appropriate standard levels, the Agency considers the full body of scientific evidence and focuses on those aspects of the key studies that provided evidence of positive and generally statistically significant effects. However, in the broader evaluation of the evidence from many epidemiological studies, and subsequently during the process of forming causality determinations, the EPA has emphasized the pattern of results across epidemiological studies for drawing conclusions on the relationship between PM<sub>2.5</sub> and health outcomes, and whether the effects observed are coherent across the scientific disciplines. Thus, in making causality determinations, the EPA did not limit its focus or consideration to just studies that reported positive associations or where the results were statistically significant.<sup>122</sup>

In addition, EPA has previously addressed the issue of what one commenter calls "confounding health factors." In the case of short-term exposure studies, a confounder would need to vary on a day-to-day basis with both air pollution and with the specific health outcome being evaluated (e.g., mortality or hospital admissions or emergency department visits). The

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<sup>122</sup> *Id.*

confounders that fit these criteria for short-term exposure studies are related to weather (e.g., temperature, dew point, relative humidity). The short-term exposure studies, specifically time-series studies, evaluated in the ISA all included weather covariates in their models to account for their potential confounding effects (U.S. EPA, 2009a, Chapter 6).

With regard to long-term exposure studies, a number of multilevel cohort studies (Naess et al. 2007; Jerrett et al. 2003; Jerrett et al. 2005) have evaluated individual-level and contextual, or ecologic-level variables as potential confounders. As reported in Jerrett et al. (2005), “Contextual effects occur when individual differences in health outcomes are associated with the grouped variables that represent the social, economic, and environmental settings where the individuals live, work, or spend time (e.g., poverty or crime rate in a neighborhood). These contextual effects often operate independently from (or interactively with) the individual-level variables such as smoking.” These studies found that the inclusion of contextual variables tended to attenuate the risk estimates for the association between long-term exposure to PM<sub>2.5</sub> and mortality, but that an independent effect of PM<sub>2.5</sub> on mortality remains. For example, Jerrett et al. (2005) found that for PM<sub>2.5</sub> (controlling for age, sex, and race), the relative risk was 1.24 (95% CI 1.11, 1.37) for a 10 µg/m<sup>3</sup> exposure contrast. In a parsimonious model that controlled for 44 different individual covariates and ecological confounder variables that both reduced the pollution coefficient and had associations with mortality, the relative risk was 1.11 (95% CI 0.99, 1.25) for the same exposure contrast. The EPA believes that the results of these studies provide confidence that more recent reports with updated datasets are showing independent effects of PM<sub>2.5</sub>.<sup>123</sup>

One commenter’s assertion that the risk from PM is hundreds of times smaller than the increased risk of lung cancer caused by cigarette smoking, and difficult to estimate, has been previously addressed during the PM NAAQS review. The “Responses to Significant Comments on the 2012 Proposed Rule on the National Ambient Air Quality Standards for Particulate Matter” stated:

The comparison of smoking and ambient PM-related effect estimates was not considered relevant for the PM NAAQS review, and thus, was not considered in the ISA. This issue was not raised during the CASAC and public review of the drafts of the ISA. In order to address the comments submitted, the EPA conducted a provisional review of the “new” literature published since the close of the ISA including studies cited by commenters, and identified several relevant studies that

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<sup>123</sup> *Id.*



compared and evaluated effect estimates determined for relationships between specific health outcomes and ambient particulate matter and active smoking (Pope et al. 2009; Pope et al. 2011). These authors analyzed data from the American Cancer Society cohort in order to evaluate the shape of the exposure-response relationship for PM<sub>2.5</sub> and both lung cancer mortality (Pope et al. 2011) and cardiovascular disease (CVD) mortality (Pope et al. 2009; Pope et al. 2011). In these studies, the authors evaluated three sources of exposure to PM<sub>2.5</sub>: active smoking, passive smoking, and ambient air pollution.

For lung cancer mortality, the authors observed “a monotonic, nearly linear exposure response relationship with fairly constant marginal increases in RR [relative risk] with increasing exposure” across the full range of observed exposures (Pope et al. 2011). When the authors evaluated CVD mortality, they observed “an exposure-response relationship that is substantially non-linear, that is, much steeper at the very low levels of exposure compared with higher levels of exposure” (Pope et al. 2011). In fact, the study authors noted that “For lung cancer mortality, the RRs steadily increase to nearly 40 at the highest increment of cigarette smoking (>42 cigarettes per day), whereas for CVD mortality, the RRs level off at approximately 2.0-2.5.”

Because of the much steeper exposure-response relationship for long-term exposure to PM<sub>2.5</sub> and CVD mortality at low PM<sub>2.5</sub> concentrations, which flattens out at higher PM<sub>2.5</sub> concentrations (i.e., those associated with passive and active cigarette smoking), it is biologically plausible that the risk estimates for CVD mortality due to exposure to ambient concentrations of PM<sub>2.5</sub> would be similar to risk estimates for CVD mortality due to active cigarette smoking. These results are consistent with the results observed in epidemiological studies of long-term exposure to PM<sub>2.5</sub> and mortality, and with the conclusions drawn in the ISA. For example, Dockery et al. (1993) found essentially the same risk estimates for CVD mortality associated with both ambient PM<sub>2.5</sub> concentrations and active cigarette smoking in an area with relatively high levels of ambient PM<sub>2.5</sub> concentration.

Additionally, there could be non-traditional confounders have not been accounted for in epidemiological studies of short- and long-term exposure to air pollution. These confounders include physical and psychological population stress factors. The EPA disagrees with these commenters because: (1) there is very limited evidence of stress affecting the air pollution-health effect relationship upon which to base the commenters assertion; (2) in order for stress to be a true confounder it would need to vary temporally (for short-term exposure studies) and spatially (for long-term exposure studies) with both air pollution concentrations and the health effect of interest, which has not been demonstrated; and (3) rather than stress acting as a true confounder, more than likely stress is on the causal pathway to the health effects that have been observed to be associated with air pollution. The EPA acknowledges that stress may contribute bias to epidemiological studies; however, stress more than likely would influence the magnitude of individual effect estimates in a single-city or multi-city study and

not the trends of positive associations observed across studies conducted in multiple locations.”<sup>124</sup>

With regard to the third set of PM<sub>2.5</sub> health effect comments noted above (suggestions that PM<sub>2.5</sub> from diesel combustion located in California does not present a public health risk), we note that the isolated studies noted by the commenters are either consistent with past peer-reviewed studies supportive of PM<sub>2.5</sub>-related health effects, or have been considered previously by EPA and were considered as part of the weight of evidence used to make conclusions in the ISA.

Some of the commenters asserted that the composition of PM in California is less toxic than the PM in other areas of the country. One commenter asserted that “[t]he scientific evidence on the health effect of particulate matter air pollution in CA does not support its further control or regulation at this time. Our PM<sub>2.5</sub> is different in composition and is less toxic than that in many Eastern regions of the U.S.”<sup>125</sup> Another commenter states that “[t]he composition of what CARB defines as PM<sub>2.5</sub> has changed over time, and is not the same as what has been studied in the Eastern half of the United States.”<sup>126</sup> EPA responded to questions about heterogeneity in risk estimates in the PM NAAQS Review and that response is included here. EPA finds that no new evidence has been submitted in the context of the authorization proceeding to change this conclusion.

EPA responded in the PM NAAQS review that with respect to understanding the nature and magnitude of PM<sub>2.5</sub>-related risks:

[T]he EPA agrees that epidemiological studies evaluating health effects associated with long- and short-term PM<sub>2.5</sub> exposures have reported heterogeneity in responses between cities and effect estimates across geographic regions of the U.S. (U.S. EPA, 2009a, sections 6.2.12.1, 6.3.8.1, 6.5.2, and 7.6.1; U.S. EPA,

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<sup>124</sup> EPA’s Response to Comments: <http://www.epa.gov/ttn/naaqs/standards/pm/data/20121214rtc.pdf> at II 23-25.

<sup>125</sup> See Dr. Phalen comment.

<sup>126</sup> See Dr. Malkan comment.

2011a, p. 2-25). For example, when focusing on short-term PM<sub>2.5</sub> exposure, the ISA found that multi-city studies that examined associations with mortality and cardiovascular and respiratory hospital admissions and emergency department visits demonstrated greater cardiovascular effects in the eastern versus the western U.S. (Dominici, et al., 2006a; Bell et al., 2008; Franklin et al. (2007, 2008)). However, the rationale that heterogeneity in risk estimates presents a potential bias as posed by the commenters is simplistic and does not account for a number of factors that have been shown to influence city-specific risk estimates in epidemiologic studies. As discussed in the ISA, the EPA recognizes that there are compositional differences in PM<sub>2.5</sub> across the country and that the county-level air quality data used in epidemiological studies may result in exposure error, which could in part account for variability in city-specific risk estimates (U.S. EPA, 2009a, section 2.3.2).

There are a limited number of studies that evaluated regional heterogeneity in the association between long-term exposure to PM<sub>2.5</sub> and mortality. Krewski et al. (2009a) conducted subset analyses of the ACS cohort in Los Angeles, CA and New York City, NY, and observed a relative risk in Los Angeles that was greater in magnitude than what was observed in the full ACS cohort, while the relative risk in New York City was less than what was observed in the full ACS cohort. These observations are likely due to the greater spatial heterogeneity in PM<sub>2.5</sub> concentrations observed in Los Angeles, and the overall spatial homogeneity of PM<sub>2.5</sub> concentrations in New York City.

In another retrospective cohort, Zeger et al. (2008) observed associations between long term exposure to PM<sub>2.5</sub> and mortality for the eastern and central ZIP codes that were similar to those reported in the ACS and Harvard Six Cities studies, though no association was observed in the western region. The lack of the association in the western region is “largely because the Los Angeles basin counties (California) have higher PM levels than other West Coast urban centers, but not higher adjusted mortality rates” (Zeger et al. 2008). The ISA also evaluated studies that provided some evidence for seasonal differences in PM<sub>2.5</sub> risk estimates, specifically in the northeast. The ISA found evidence indicating that individuals may be at greater risk of dying from higher exposures to PM<sub>2.5</sub> in the warmer months, and at greater risk of PM<sub>2.5</sub> associated hospitalization for cardiovascular and respiratory diseases during colder months of the year. The limited influence of seasonality on PM risk estimates in other regions of the U.S. may be due to a number of factors including varying PM composition by season, exposure misclassification due to regional tendencies to spend more or less time outdoors and air conditioning usage, and the prevalence of infectious diseases during the winter months (U.S. EPA, 2009a, p. 3-182).

Overall, the EPA recognizes that uncertainties still remain regarding various factors that contribute to heterogeneity observed in epidemiological studies (77 FR 38909/3). Nonetheless, the EPA recognizes that this heterogeneity could be attributed, at least in part, to differences in PM<sub>2.5</sub> composition across the

U.S., as well as to exposure differences that vary regionally such as personal activity patterns, microenvironmental characteristics, and the spatial variability of PM<sub>2.5</sub> concentrations in urban areas (U.S. EPA, 2009a, section 2.3.2; 77 FR 38910).

As recognized in the PA, the current epidemiological evidence and the limited amount of city-specific speciated PM<sub>2.5</sub> data does not allow conclusions to be drawn that specifically differentiate effects of PM in different locations (U.S. EPA, 2011a, p. 2-25). Furthermore, as discussed in section III.E.1 of the preamble to the final rule, the ISA concluded, “that many constituents of PM<sub>2.5</sub> can be linked with multiple health effects, and the evidence is not yet sufficient to allow differentiation of those constituents or sources that are more closely related to specific health outcomes” (U.S. EPA, 2009a, p. 2-17). CASAC thoroughly reviewed the EPA’s presentation of the scientific evidence indicating heterogeneity in PM<sub>2.5</sub> effect estimates in epidemiological studies and concurred with the overall conclusions presented in the ISA (Pages 6-179-180, Figure 6-25, Figure 6-26).<sup>127</sup>

In the PM ISA EPA has also stated:

Additionally it is important to point out that there are a few CA-specific time-series studies conducted by Ostro et al. that did find associations with PM<sub>2.5</sub>. These are discussed in the ISA PM<sub>2.5</sub>-Mortality Associations on a Regional Scale: California. Ostro et al. (2006, 087991) examined associations between PM<sub>2.5</sub> and daily mortality in nine heavily populated California counties (Contra Costa, Fresno, Kern, Los Angeles, Orange, Riverside, Sacramento, San Diego, and Santa Clara) using data from 1999 through 2002. The authors used a two-stage model to examine all-cause, respiratory, cardiovascular, ischemic heart disease, and diabetes mortality individually and by potential effect modifier (i.e., age, gender, race, ethnicity, and education level). The a priori exposure periods examined included the average of 0- and 1-day lags (lag 0-1) and the 2-day lag (lag 2). The authors selected these non-overlapping lags (i.e., rather than selecting lag 1 as the single-day lag) because previous studies have reported stronger associations at lags of 1 or 2 days or with cumulative exposure over three days. It is unclear why the investigators chose these non-overlapping lags (i.e., single-day lag of 2 instead of 1) even though they state they based the selection of their lag days on results presented in previous studies, which found the strongest association for PM lagged 1 or 2 days. Using the average of 0- and 1-day lags Ostro et al. (2006, 087991) reported combined estimates of: 0.6% (95% CI: 0.2-1.0), 0.6% (95% CI: 0.0-1.1), 0.3% (95% CI: -0.5 to 1.0), 2.2% (95% CI: 0.6-3.9), and 2.4% (95% CI: 0.6-4.2) for all-cause, cardiovascular, ischemic heart disease, respiratory, and diabetes deaths, respectively, per 10 µg/m<sup>3</sup>.

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<sup>127</sup> See “Responses to Significant Comments on the 2012 Proposed Rule on the National Ambient Air Quality Standards for Particulate Matter (June 29, 2012; 77 FR 38890).  
<http://www.epa.gov/ttn/naaqs/standards/pm/data/20121214rtc.pdf> at II-37-II-38.

.... Five of the nine counties examined in the Ostro et al. (2006, 087991) analysis contain cities that are among the 2 cities examined in the Franklin et al. (2007, 091257) analysis for the same period, 1999-2002. While the lags used were different between these two studies, both presented PM<sub>2.5</sub> risk estimates in individual cities or counties (graphically in the Franklin et al. study (2007, 091257); in a table in the Ostro et al. study (2006, 087991)), which allowed for a cursory evaluation of consistency between the two analyses. In Franklin et al. (2007, 091257), PM<sub>2.5</sub> risk estimates at lag 1 day for the cities Los Angeles and Riverside were slightly negative, whereas Fresno, Sacramento, and San Diego showed positive values above 1% per 10 µg/m<sup>3</sup> increase in PM<sub>2.5</sub>. The 2-day lag result presented in Ostro et al. (2006, 087991) is qualitatively consistent, with Los Angeles and Riverside, both of which show slightly negative estimates, while the other 3 locations all show positive, but somewhat smaller estimates, than those reported by Franklin et al. (2007, 091257). The estimates for the average of 0- and 1-day lags for these five counties in Ostro et al. (2006, 087991), which contain cities examined in Franklin et al. (2007, 091257), were all positive. Thus, these two PM<sub>2.5</sub> studies showed some consistencies in risk estimates even though they used different lag periods and a different definition for the study areas of interest (i.e., counties vs. cities).<sup>128</sup>

Thus, as noted in EPA's PM NAAQS review and the Response to Comments document referenced above, EPA has stated it agrees that epidemiological studies evaluating health effects associated with long- and short-term PM<sub>2.5</sub> exposures have reported heterogeneity in responses between cities and effect estimates across geographic regions of the United States. However, EPA believes it critical to understand the issue in context and EPA's overall approach in concluding as it did in the ISA, "that many constituents of PM<sub>2.5</sub> can be linked with multiple health effects, and the evidence is not yet sufficient to allow differentiation of those constituents or sources that are more closely related to specific health outcomes." EPA finds that no new evidence has been submitted in the context of the authorization proceeding to change this conclusion.

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<sup>128</sup> See EPA-HQ-OAR-2008-0691-0318-attachment 3 and <http://yosemite.epa.gov/sab/sabproduct.nsf/368203f97a15308a852574ba005bbd01/8bee96ad3228eabe8525760400702786!OpenDocument> at 6-179.

With regard to the claims made by Dr. Phalen in comments on this authorization proceeding, Dr. Phalen does not provide any evidence or studies to support the proposition that PM<sub>2.5</sub> is not only different in composition in California but as a result is less toxic, or present evidence as to the level of reduced toxicity. With regard to Dr. Enstrom's comments regarding differences in PM health risk in California compared to other locations, as discussed above, EPA has previously reviewed Dr. Enstrom's studies and has responded to his comments, as well as others, on this issue. As explained above, EPA has examined the issue of whether PM<sub>2.5</sub> composition is determinative and found that the scientific evidence is not yet sufficient to allow differentiation of those components or sources that are more closely related to specific health outcomes nor to exclude any component or group of components from the mix of fine particles included in the PM<sub>2.5</sub> indicator. EPA similarly concluded that current evidence does not allow conclusions to be drawn that differentiate effects of PM in different locations.

With regard to the claims of omissions in EPA's Regulatory Impact Analysis (RIA) for its proposed PM air quality standards, it is necessary to understand that only the peer-reviewed studies cited in the PM ISA (2009) or PM Provisional Science Assessment (2012) were listed in the RIA table. Furthermore, the inclusion or exclusion of a study published after the Provisional Science Assessment would not materially change the large body of scientific evidence indicating an effect of PM<sub>2.5</sub> exposure on human health.

With regard to the claims based on the Trucker Study noted above, the study does not attempt to examine air pollution-related health effects or provide any measure of air pollution exposure in the cohort examined. The study looked only at mortality rates for certain deaths within the population studied. EPA notes that the Truck Driver study contains a research abstract that plainly states "[t]he absence of disease mortality deserves careful interpretation, and may be

due to both a strong healthy worker effect and a short monitoring period.”<sup>129</sup> We note that this study did not include an actual close study of air quality and PM exposure levels and otherwise is not of scientific significance. This type of study as well as the other few studies submitted in isolation does not overcome the significant evidence and scientific evidence that has been peer reviewed and found PM to be associated with health effects.

The comments provided do not provide sufficient evidence to meet the authorization opponents’ burden of showing that PM emissions in California do not create any risk to public health, particularly given the substantial body of evidence suggesting such a risk. Therefore, even if EPA were to apply the alternative interpretation of section 209(e)(2)((A)(ii) and examine whether CARB has a specific need for its Fleet Requirements, the opponents of the authorization have not met their burden of proof to demonstrate that California no longer continues to have serious air quality issues related to PM and NO<sub>x</sub>, that are created by California’s underlying compelling and extraordinary conditions. The evidence submitted to the record, in addition to EPA’s own PM NAAQS review and the multitude of studies reviewed therein and conclusions of EPA that were peer reviewed by CASAC, continue to demonstrate requisite health effects due to PM exposure and therefore the authorization cannot be denied on this basis.

Finally, EPA notes that CARB’s Fleet Requirements are designed not only to reduce PM emissions and public health consequences, as discussed above, but also to address the harmful effects of ozone by reducing emissions of NO<sub>x</sub>, as an ozone precursor, from the in-use fleet.<sup>130</sup>

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<sup>129</sup> CCTA; “Mortality Among Members of a Truck Driver Trade Associations” AAOHN Journal Vol. 58. No. 11, 2010 at 473.

<sup>130</sup> See CARB Authorization Request at 4 (“Even as amended to provide immediate short-term relief to fleets adversely impacted by the recession, the In-Use Off-Road Regulation is expected to achieve a 17 percent reduction in NO<sub>x</sub> emissions and a 21 percent reduction in PM<sub>2.5</sub> emissions in 2023 from forecasted emissions that would exist without a regulation in place.”).

There is no evidence in the record to suggest that ozone pollution is not harmful to public health or that CARB's Fleet Requirements are not needed in that context.

In conclusion, even if EPA were to use the alternative approach outlined above – that of reviewing the need for the Fleet Requirements per se to meet compelling and extraordinary conditions in California – EPA finds that the opponents of the authorization have not met their burden of proof. Therefore, even if EPA were to use this alternative approach, we could not deny the authorization on this basis.

c. Additional PM Comments

EPA also received comment from the PLF focused on the recent decision issued by the United States Court of Appeals for the District of Columbia Circuit in *Natural Resources Defense Counsel v. EPA*, No 08-1250, January 4, 2013, (*NRDC v. EPA*) concerning implementation regulations applicable to the 1997 PM<sub>2.5</sub> NAAQS. PLF characterizes the court's decision as requiring EPA itself to adopt stringent federal implementation standards for PM<sub>2.5</sub> throughout the nation, including California. Because California asserted that it "needs" nonroad diesel PM standards that are more stringent than federal nonroad PM standards, and because (in PLF's view) EPA is now required to use the "stringent, action-forcing provisions" of section 188-188(b) of the Clean Air Act as a result of the Decision, PLF maintains that it is appropriate to complete EPA's administrative proceedings on remand (from the decision) for implementation regulations before EPA is able to determine the extent to which there is a "need" for California to have its own PM<sub>2.5</sub> nonroad diesel standard for engines and vehicles based on "compelling and extraordinary conditions" in California. In addition, PLF highlights EPA's most recent revision of the primary annual NAAQS for PM<sub>2.5</sub>, which lowered the prior standard from 15.0 micrograms per cubic meter to 12.0 micrograms per cubic meter, and the concomitant revision to



the Air Quality Index for PM<sub>2.5</sub>. PLF asserts that these events provide additional reasons to question California's "need" for its own PM<sub>2.5</sub> nonroad diesel standard.

PLF's reliance on *NRDC v. EPA* is misplaced. That decision pertains only to EPA's regulations governing how states should address the statutory requirements for attainment plans. It does not require EPA "to move ahead in implementing strict federal PM<sub>2.5</sub> controls," through its own regulations as opposed to state regulation of PM<sub>2.5</sub> and PM<sub>2.5</sub> precursors. The Clean Air Act generally requires states to have state implementation plans (SIPs) that provide for attainment and maintenance of the NAAQS, and nothing in the Court's opinion obviates or supplants that statutory requirement. Further, the *NRDC v. EPA* decision will not result in EPA itself issuing new regulatory controls that impose any specific emission reductions requirements on mobile sources. To the extent that PLF is suggesting that EPA itself is now required to regulate any particular sources more stringently, through national standards, such suggestion is incorrect.

To the extent EPA imposes the "more stringent" NAAQS implementation requirements of sections 188 through 190 of the Act on the state (rather than the "less stringent" implementation requirements of sections 171 through 179B of the Act), then the state will still be required to adopt its own regulations (e.g. Fleet Requirements) to get necessary emission reductions to attain and maintain the applicable NAAQS. While this may create somewhat lesser flexibility for states in developing attainment plan measures in the future, it by no means negates their SIP obligations today. The emission reductions from the Fleet Requirements take effect at the beginning of 2014, and California has shown that it needs these reductions as part of the suite of control measures that are necessary for purposes of attaining and maintaining the PM<sub>2.5</sub> and ozone NAAQS expeditiously. Moreover, states still have a great deal of flexibility in designing

their emission control program to achieve needed emission reductions, and nothing in the court's opinion in *NRDC v. EPA* indicates any attempt by the court to preclude California from using the specific flexibility provided by section 209(e)(2)(A) to reduce emissions through regulation of nonroad engines. Such emission reductions have been instrumental in California's strategy to meet its NAAQS requirements.

With respect to the revisions to the primary annual PM<sub>2.5</sub> NAAQS issued in December of 2012, the revisions have increased the stringency of the standard. Thus, if anything, the new PM<sub>2.5</sub> standard will increase California's need to find reductions in emissions of PM<sub>2.5</sub> and PM<sub>2.5</sub> precursors from regulated sources, which should only increase the need for such regulations such as the Fleet Requirements.

For the reasons set forth above, EPA believes that under the alternative interpretation of the compelling need criterion discussed above, opponents of authorization have not meet their burden of demonstrating that California's Fleet Requirements do not have a rational relationship to contributing to amelioration of serious air quality problems in California, including its PM<sub>2.5</sub> and ozone. Accordingly, commenters' assertions to the contrary provide no basis for denying authorization.

#### 4. Section 209(e)(2)(A)(ii) Conclusion

With respect to the need for California's standards to meet compelling and extraordinary conditions, after an examination of the text of section 209 and the legislative history, EPA again concludes that the best way to interpret this provision is to apply the traditional interpretation. Under this interpretation, EPA can deny authorization under section 209(e)(2)(A)(ii) only if it finds that opponents of authorization have demonstrated that California does not need a separate nonroad program to address compelling and extraordinary conditions. Under this traditional

interpretation, EPA cannot find that opponents of the authorization have demonstrated that California does not need its state standards to meet compelling and extraordinary conditions. The opponents of the waiver have not adequately demonstrated that California no longer has a need for its nonroad emissions program.

Even if EPA were to apply the alternative interpretation advocated by commenters – that EPA is required to review, on a case by case basis, whether the specific standard submitted by CARB is needed to meet compelling and extraordinary conditions – EPA cannot find that the opponents of the waiver have demonstrated that California does not need its Fleet Requirements to meet compelling and extraordinary conditions.

Accordingly, EPA has determined that it cannot deny the authorization request under section 209(e)(2)(A)(ii).

### *C. Consistency with Section 209 of the Clean Air Act*

Section 209(e)(2)(A)(iii) of the Act instructs that EPA cannot grant an authorization if California's standards and enforcement procedures are not consistent with "this section." As described above, EPA's section 209(e) rule states that the Administrator shall not grant authorization to California if she finds (among other tests) that the "California standards and accompanying enforcement procedures are not consistent with section 209." EPA has interpreted the requirement to mean that California standards and accompanying enforcement procedures must be consistent with at least section 209(a), section 209(e)(1), and section 209(b)(1)(C), as EPA has interpreted this last subsection in the context of motor vehicle waivers.<sup>131</sup> Thus, this can be viewed as a three-pronged test.

#### 1. Consistency with Section 209(a)

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<sup>131</sup> See 59 FR 36969 (July 20, 1994).

Section 209(a) of the Clean Air Act prohibits states or any political subdivisions of states from setting emission standards for new motor vehicles or new motor vehicle engines. Section 209(a) is modified in turn by section 209(b) which allows California to set such standards if other statutory requirements are met. To find a standard to be inconsistent with section 209(a) for purposes of section 209(e)(2)(A)(iii), EPA must find that the standard in question actually regulates new motor vehicles or new motor vehicle engines.

In its authorization request, CARB stated that by definition, the section 209(a) preemption does not apply to vehicles covered by the Fleet Requirements because the regulation only applies to non-new, in-use vehicles and engines and not to new motor vehicles and engines. CARB also stated that with a few limited exceptions – workover rigs, two-engine cranes, and certain other two-engine vehicles – vehicles covered under the Fleets Requirements are not motor vehicles under the Clean Air Act definition of motor vehicles.<sup>132</sup> No commenter argued the contrary or otherwise asserted that the Fleet Requirements are not consistent with section 209(a).

Therefore, EPA cannot deny California’s request on the basis that California’s Fleet Requirements are not consistent with section 209(a).

## 2. Consistency with Section 209(e)(1)

To be consistent with section 209(e)(1) of the Clean Air Act, California’s standards or other requirements relating to the control of emissions must not relate to new engines which are

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<sup>132</sup> CARB Authorization Request. CARB noted that these limited exceptions are provided to afford fleet operators of such vehicles additional flexibility to address both the in-use on-highway requirements associated with the engines designed to propel the equipment and the nonroad engines on the vehicles designed to perform other functions. Since the regulation of such non-new (in use) on-highway vehicles (and the engines designed to propel such vehicles) is not preempted under section 209(a) CARB did not seek a waiver under section 209(b) and instead only sought an authorization under section 209(e) for the in use nonroad engines associated with such on-highway vehicles.

used in farm or construction equipment or vehicles and which are smaller than 175 horsepower (hp), and new locomotives or new engines used in locomotives.

In its Authorization Request, CARB stated that the Fleet Requirements specifically “do not apply to locomotives and do not apply to new farm and construction vehicles and equipment less than 175 hp.”<sup>133</sup> CARB notes that “implements of husbandry, regardless of engine size, are expressly excluded from coverage.” While CARB acknowledged that nonroad construction vehicles and engines used in such vehicles are covered by the Fleets Requirements, CARB stated that the regulation does not apply to new construction vehicles or engines.

CARB stated that the Fleet Requirements do not attempt to regulate new construction sources covered by the section 209(e)(1) preemption. New, as it applies to nonroad engines and equipment other than locomotives and engine used in locomotives, means engines and equipment whose legal title has not been transferred to an ultimate purchaser, or in certain cases, to engines or vehicles that have been placed into service.<sup>134</sup> The Fleet Requirements do not regulate engines and vehicles immediately after their titles are transferred or they enter service; instead, the regulation exempts any vehicle that is less than ten years old from the BACT requirements. CARB states that while a fleet owner may elect to comply with the fleet average or BACT requirements by purchasing or repowering a vehicle primarily used in construction with a new nonroad engine under 175 hp, that outcome also does not run afoul of the 209(e)(1) preemption. CARB notes that this new engine is only required to be certified to the existing federal nonroad emission standards.<sup>135</sup> Therefore, the Fleet Requirements do not establish standards for such new engines.

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<sup>133</sup> *Id* at 20.

<sup>134</sup> *See* 40 CFR § 1074.5.

<sup>135</sup> CARB’s regulations establishing new emission standards for engines less than 175 hp specifically do not cover engines that are primarily used in farm and construction vehicles and equipment.

EPA received comment from ARTBA suggesting that CARB's regulations run afoul of section 209(e)(1)'s preemption for "new engines which are used in construction equipment or vehicles or farm equipment or vehicles and which are smaller than 175 horsepower." ARTBA argues that section 209(e)(1)'s limitation on state standards or emission-related requirements for these engine/equipment categories lasts throughout the useful life of the equipment.<sup>136</sup> ARTBA stated in comment that under this interpretation, California's authorization request should be denied because the Fleet Requirements apply to all in-use off-road diesel construction equipment greater than 25 HP, including equipment in the permanently preempted power range. ARTBA did not provide any further explanation in its written comments or at the public hearing as to why this permanent preemption of certain types of "new" vehicles should be interpreted as extending throughout the useful life of the vehicles.

CARB, in response to comments made by ARTBA at EPA's public hearing, noted that the contention that the preemption under section 209(e)(1) extends throughout the useful life of the new engine is simply wrong. CARB noted that EPA considered and rejected this extended definition of "new" in section 209(e)(1) during the 209(e) rulemaking process.<sup>137</sup> CARB also noted in its Authorization Request that the Court of Appeals in *Engine Manufacturers Association v. EPA (EMA)*, affirmed EPA's definition of "new" as it is applied to off-road sources other than locomotives.<sup>138</sup> In *EMA*, the court discussed the issue of whether EPA's definition of new nonroad engines would effectively undermine the section 209(e)(1) preemption that states are prohibited from adopting emission standards for new farm and construction

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<sup>136</sup> See Hearing Transcript at 51-52, and ARTBA at 2.

<sup>137</sup> 59 FR 31306, 31328-31 (June 17, 1994).

<sup>138</sup> *EMA* 88 F3d 1075, 1082-1086 (D.C. Cir. 1996).

vehicles with less than 175 hp. CARB noted that the court concluded that EPA's definition of new did not undermine the preemption in 209(e)(1).<sup>139</sup>

CARB also notes the more recent history on this issue. In a 2002 petition to EPA, ARTBA requested that EPA revise its regulations such that nonroad engines in the categories covered under section 209(e)(1) are preempted for their useful lives. EPA denied ARTBA's request,<sup>140</sup> and subsequently the United States Court of Appeals for the District of Columbia dismissed ARTBA's petition for review of that denial.<sup>141</sup>

At the outset, we note that no commenter disputes CARB's assertion that its regulations do not violate section 209(e)(1) as EPA's current regulations implement that provision. Rather, ARTBA's comments appear to go to the validity of EPA's longstanding regulations, as opposed to the validity of California standards currently being reviewed under those regulations. As such, EPA believes ARTBA's comments are peripheral to this proceeding. EPA is not reviewing its authorization regulations in this proceeding, but is instead reviewing the validity of California's Fleet Requirements under those regulations.

In any event, EPA fully considered the scope of preemption issue (the definition of "new") during its 1994 rulemaking which implemented the provisions of section 209(e). The rationale contained in that rulemaking was affirmed by the Court of Appeals in *EMA*.<sup>142</sup> As CARB notes, EPA fully reviewed its rationale regarding the definition of "new" in the context of ARTBA's earlier petition to reconsider its regulations and EPA denied the petition. No information or argument has been submitted to the record of this proceeding to rebut EPA's

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<sup>139</sup> A more recent opinion in the Court of Appeals for the Ninth Circuit agreed with the D.C. Circuit's decision on this issue. *National Association of Home Builders v. San Joaquin UAPCD*, 627 F. 3d 730 (9<sup>th</sup> Cir. 2010).

<sup>140</sup> 73 FR 59034, 59130 (October 8, 2008).

<sup>141</sup> *ARTBA v. EPA*, 558 F.3d 1109 (D.C.Cir. 2009), certiorari denied 131 S.Ct. 338, 178 L.Ed.2d 38. A more recent opinion from the Court of Appeals for the D. C. Circuit came to the same conclusion. *ARTBA v. EPA*, 705 F.3d 453 (D.C. Cir. 2013)

<sup>142</sup> *EMA*, 88 F3d 1075, (D.C. Cir. 1996).

interpretation. ARTBA provides no new information or argument in the record of this proceeding to suggest that EPA should change its longstanding interpretation of “new” in section 209(e),<sup>143</sup> and as stated above, EPA is not in any case reviewing its regulations in the context of this proceeding. Moreover, ARTBA does not make any factual argument regarding the consistency with section 209(e)(1) of the particular regulations for which CARB is requesting authorization, even under ARTBA’s own definition.

In light of the lack of information in the record, and giving due consideration to the burden of proof being on the opponents of the waiver, EPA cannot make a finding that CARB’s Fleet Requirements are inconsistent with section 209(e)(1)(i). Therefore, EPA cannot deny CARB’s authorization request on this basis.

### *3. Consistency with Section 209(b)(1)(C)*

The requirement that California’s standards be consistent with section 209(b)(1)(C) of the Clean Air Act effectively requires consistency with section 202(a) of the Act. To determine this consistency, EPA has applied to California nonroad standards the same test it has used previously for California motor vehicle standards; namely, state standards are inconsistent with section 202(a) of the Act if there is inadequate lead-time to permit the development of technology necessary to meet those requirements, giving appropriate consideration to the cost of compliance within that timeframe. California’s accompanying enforcement procedures would also be inconsistent with section 202(a) if federal and California test procedures conflicted. The scope of EPA’s review of whether California’s action is consistent with section 202(a) is narrow.

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<sup>143</sup> ARTBA had previously, though not in this proceeding, provided a fuller explanation of its view regarding the interpretation of 209(e)(1) and we have previously responded that ARTBA’s arguments were not persuasive. *See* 73 FR 59034, 59130 (October 8, 2008). The US Court of Appeals for the District of Columbia subsequently dismissed ARTBA’s petition for review of EPA’s response. *ARTBA v. EPA* (2009 D.C. Cir( 588 F.3d 1109, rehearing en banc denied (March 5, 2010), certiorari denied 131 S.Ct. 388, 178 L.Ed2d 38. ARTBA has not made similar or other arguments in this proceeding beyond an unsupported statement regarding how it interprets the length of the preemption, and we do not address that issue in depth here, except to say that ARTBA makes no attempt to support its assertion.



The determination is limited to whether those opposed to the authorization or waiver have met their burden of establishing that California's standards are technologically infeasible, or that California's test procedures impose requirements inconsistent with the federal test procedures.<sup>144</sup>

EPA does not believe that there is any reason to review these criteria any differently for EPA's evaluation of California's Fleet Requirements. There is nothing inherently different about how the Fleet Requirement control technologies should be reviewed when making a determination about technological feasibility or consistency of test procedures.

#### a. Technological Feasibility

The legislative history of section 209 (including the "consistency with section 202(a) requirement in 209(b)((1)(C)) indicates that this provision is intended to relate to technological feasibility.<sup>145</sup> Section 202(a)(2) states, in relevant part, that any regulation promulgated under its authority "shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period." Section 202(a) thus requires the Administrator to first determine whether adequate technology already exists; or if it does not, whether there is adequate time to develop and apply the technology before the standards go into effect. The latter scenario also requires the Administrator to decide whether the cost of developing and applying the technology within that time is feasible. Previous EPA waivers are in accord with this position.<sup>146</sup> For example, EPA in a 1976 waiver decision considered California's standards and enforcement procedures to be consistent with section 202(a) because adequate technology

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<sup>144</sup> *MEMA I*, 627, F.2d at 1126.

<sup>145</sup> H.R. Rep. No. 95-294, 95<sup>th</sup> Cong., 1<sup>st</sup> Sess. 301 (1977).

<sup>146</sup> *See, e.g.*, 49 FR 1887, 1895 (May 3, 1984); 43 FR 32182, 32183 (July 25, 1978); 41 FR 44209, 44213 (October 7, 1976).

existed as well as adequate lead-time to implement that technology.<sup>147</sup> The legislative history of the 1977 amendments to the Clean Air Act indicates Congress's view that, generally, EPA's construction of the waiver provision had been consistent with congressional intent.<sup>148</sup>

EPA also evaluates CARB's request in light of congressional intent regarding the waiver program generally. This is consistent with the motivation behind section 209(b) – to foster California's role as a laboratory for motor vehicle emission control, in order “to continue the national benefits that might flow from allowing California to continue to act as a pioneer in this field.”<sup>149</sup> For these reasons, EPA believes that California must be given substantial deference to adopt not only new motor vehicle emission standards, but to adopt new and in-use nonroad emission standards which may require new and/or improved technology. This deference was discussed in an early waiver decision when EPA approved the waiver request for California's 1977 model year standards:

Even on this issue of technological feasibility I would feel constrained to approve a California approach to the problem which I might feel unable to adopt at the Federal level in my own capacity as a regulator. The whole approach to the Clean Air Act is to force the development of new types of emission control technology where that is needed by compelling the industry to ‘catch up’ to some degree with newly promulgated standards. Such an approach to automotive emission control might be attended with costs, in the shape of reduced product offering, or price and fuel economy penalties, and by risks that a wider number of vehicle classes may not be able to complete their development work in time. Since a balancing of these risks and costs against the potential benefits from reduced emissions is a central policy decision for any regulatory agency, under the statutory scheme outlined above I believe I am required to give very substantial deference to California's judgment on that score.<sup>150</sup>

In *MEMA I*, the court addressed the cost of compliance relative to technological feasibility issue at some length in reviewing a waiver decision. According to the court:

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<sup>147</sup> 41 FR 44209 (October 7, 1976).

<sup>148</sup> H.R. Rep. No. 95-294, 95<sup>th</sup> Cong., 1<sup>st</sup> Sess. 301 (1977).

<sup>149</sup> 40 FR 23102, 23103 (waiver decision citing views of Congressman Moss and Senator Murphy) (May 28, 1975).

<sup>150</sup> *Id.* at 23103.

Section 202's cost of compliance concern, juxtaposed as it is with the requirement that the Administrator provide the requisite lead time to allow technological developments, refers to the economic costs of motor vehicle emission standards and accompanying enforcement procedures. *See* S. Rep. No. 192, 89th Cong., 1st Sess. 5–8 (1965); H.R. Rep. No. 728 90th Cong., 1st Sess. 23 (1967), *reprinted in* U.S. Code Cong. & Admin. News 1967, p. 1938. It relates to the timing of a particular emission control regulation rather than to its social implications. Congress wanted to avoid undue economic disruption in the automotive manufacturing industry and also sought to avoid *doubling or tripling* the cost of motor vehicles to purchasers. It, therefore, requires that the emission control regulations be technologically feasible within economic parameters. Therein lies the intent of the cost of compliance requirement (emphasis added).<sup>151</sup>

Previous waiver decisions are fully consistent with *MEMA I*, which indicates that the cost of compliance must reach a very high level before the EPA can deny a waiver. Therefore, past decisions indicate that the costs must be excessive to find that California's standards are inconsistent with section 202(a).<sup>152</sup> It should be noted that, as with other issues related to the determination of consistency with section 202(a), the burden of proof regarding the cost issue falls upon the opponents of the grant of the waiver.

Consistent with *MEMA I*, the Agency has evaluated costs in the waiver and authorization context by looking at the actual cost of compliance in the time provided by the regulation, not the regulation's cost-effectiveness. The appropriate level of cost-effectiveness for any given California regulation is a policy decision that state regulators must consider in adopting the regulation. EPA, historically, has deferred to these policy decisions. EPA has stated in this regard, "the law makes it clear that the waiver request cannot be denied unless the specific findings designated in the statute can be made. The issue of whether a proposed California requirement is likely to result in only marginal improvement in air quality not commensurate with its cost or is otherwise an arguably unwise exercise of regulatory power is not legally

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<sup>151</sup> *MEMA I* at 1118 (emphasis added). *See also id.* at 1114 n. 40 ([T])he 'cost of compliance' criterion relates to the timing of standards and procedures.

<sup>152</sup> *See, e.g.* 47FR 7306, 7309 (Feb. 18, 1982), 43 FR 25735 (June 14, 1978), and 78 FR 2112, 2134 (Jan. 9, 2013).

pertinent to my decision under section 209 \* \* \*,’<sup>153</sup> Thus, although EPA may evaluate whether compliance costs to manufacturers (or in this case, fleet operators) are so excessive as to implicate the regulation’s technological feasibility, EPA does not look at cost-effectiveness when making a waiver decision.

In evaluating the Fleet Requirements’ consistency with section 202(a), EPA finds that CARB provided a series of flexibilities in order to address concerns expressed by some about cost and cost-effectiveness. CARB, in its Authorization Request, notes that section 2449.1 of its 2010 amendments, requires all fleets to comply with annual fleet average emission targets or, alternatively, meet the annual BACT requirements for specified percentages of the fleet. The fleet average targets, CARB states, have been set to progressively become more stringent over the years to ensure that fleets modernize to achieve the necessary emission reductions for California to meet the federal NAAQS for NO<sub>x</sub> and PM<sub>2.5</sub> and to meet its 2020 goal set forth in CARB’s 2000 Diesel Risk Reduction Plan.<sup>154</sup>

CARB notes that to meet the fleet average targets or the alternative BACT requirements, a large or medium fleet may comply by using a variety of different strategies, including: replacing the engines in existing vehicles with cleaner engines, purchasing newer vehicles with cleaner engines to replace older, higher emitting vehicles, retiring vehicles from service, designating vehicles as permanent low use, or retrofitting engines with verified diesel emission control strategies (VDECS). Compliance with the amended regulation will require most large and medium fleets to phase-out use of Tier 0 and Tier 1 engines through replacement or repowering of vehicles, but CARB also notes that fleets will be able to meet the fleet average

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<sup>153</sup> 36 FR 17158 (August 31, 1971). *See also* 40 FR 23102,23104; 58 FR 4166 (January 7, 1993), LEV Waiver Decision Document at 20.

<sup>154</sup> CARB Authorization Request at 21. CARB notes that meeting the 2020 target would reduce diesel PM from all diesel sources by 85 percent from the 2000 baseline and would prevent thousands of premature deaths and medical infirmities.

targets by replacing such vehicles and engines with a combination of higher-tiered engines.

Therefore, it is not until 2018 that the regulation actually requires large and medium fleets to replace vehicles and engines with only Tier 3 and 4 engines.

CARB states that by 2018, Tier 3 engines will have been available for at least ten years, Interim Tier 4 engines for at least seven years, and Tier 4 engines for at least three years. In addition, CARB notes that the Fleet Requirements provide relief to fleets if there is a delay in the availability of vehicles that would be required to use Tier 3, Tier 4 interim, or final Tier 4 emission standards. Therefore, CARB notes, it is anticipated that large and medium fleet owners with high natural turnover of vehicles will be able to meet the fleet average targets through normal replacement and repowering of vehicles. Fleets may also choose to meet the BACT fleet average requirements by either installing retrofits, or by modernizing the fleet by turning over older, dirtier engines and vehicles to newer (not necessarily new) and cleaner models; by retiring older vehicles or designating them as low use; or by using the other exemptions, compliance extensions, and credit provisions. Additionally, CARB explains that the 2010 amendments provide even further flexibility and relief for the smaller fleets, including, but not limited to, an additional five year delay in the implementation date (2019) of the fleet average targets beyond that applicable to large fleets, a variety of exemptions from the BACT requirements including an exemption if the vehicle is less than ten years old, or if the vehicle has already been retrofitted with a level 2 or 3 VDECS that was the highest level PM VDECS at the time of installation, etc. The 2010 amendments also included a new compliance path for small fleets whereby such fleets could comply by phasing out their Tier 0 and Tier 1 vehicles between 2019 and 2029 – and if they meet such compliance targets for a specific year then no other compliance requirements would apply.

EPA received multiple comments regarding the cost of the CARB Fleet Requirements. The comments address both the cost to fleet operators and cost-effectiveness of the regulations. Almost all of the comments argue that authorization should be denied because of the high compliance costs for fleet operators. The comments claim that these costs are excessive for an industry characterized by small, independent companies, and they claim that many will be forced out of business by the cost of compliance with the Fleet Requirements. EPA also received comments on other aspects of technological feasibility including technology availability and safety issues. A detailed discussion of these comments is presented below.

EPA received comment from a variety of contractors and associations claiming that while the nation and California continue to experience a sluggish economic recovery, employment in the construction sector has continued to decline. As a result, these commenters argue, the market is less prepared to handle the Fleet Requirements than even before the 2010 amendments.

EPA also received a variety of comments stating that the Fleet Requirements require the use of new equipment that might not be available for purchase until 2014 or later. In this context, one commenter noted that, where technology is available, a sudden increase in demand could cause supplies to be exhausted and that contractors may be barred from their work if they are not able to make necessary purchases. As such, the commenter argues that CARB must allow technology to catch up to the point that compliant equipment is broadly available. The comment states that without a period for technology to catch up, contractors will be unable to meet the Fleet Requirements, triggering negative impacts on California's infrastructure rebuilding efforts, the health of the state's construction industry, and its overall economy.

Similarly, EPA received comment that the eventual elimination of Tier 0 and Tier 1 equipment has significantly diminished the resale value of such equipment and, combined with

the recession in California, has forced the sale of this older equipment to out-of-state contractors. The commenter claims that this has caused a reduction in the size of the fleet and has probably eliminated up to 15,000 jobs in California and has also diminished the bonding capacity of contractors (equipment is used as collateral) and severely limited the size and number of construction projects which a contractor could undertake.

EPA also received a number of comments suggesting that the larger fleet companies may fare better than the smaller companies in terms of compliance with the Fleet Requirements. One commenter noted that larger companies have already begun the process of repowering or retrofitting their equipment: however the smaller companies (less than 10 employees) will be severely hampered by the costs of repowering or retrofitting equipment that, in some cases, is the sole asset of their family-owned businesses. Commenters asserted that many of these smaller companies do not have the resources or access to capital to repower or retrofit their engines and may be forced to park the equipment. Due to the annual emission reduction targets required by the Fleet Requirements, these commenters argue, many contractors will be required to first repower or retrofit an engine, only to have to turn around a few years later and replace the entire piece of equipment when the technology to do the job right finally hits the marketplace.

Another commenter maintains that the ongoing economic recession in conjunction with CARB's "draconian set of diesel regulations that denies normal industry replacement cycles" has placed many businesses in a "catch-22" situation.<sup>155</sup> Many businesses face having to replace and/or modify both on-road and off-road diesel powered equipment, yet the net effect of CARB's regulations has been to devalue their current equipment to the point they have lost equity necessary to secure financing. To the extent they may secure financing, the comment states, many could not secure enough work to satisfy a mortgage obligation.

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<sup>155</sup> California Construction Trucking Association (CCTA).

EPA also received comment stating that regardless of whether EPA reconsiders its “case-by-case” implementation of section 209 waivers by revisiting what it means for California to need this regulation to meet its air quality goals,<sup>156</sup> the Fleet Requirements still suffer from gross inefficiencies, amortized over a smaller-than-expected market, for smaller-than-expected gains which should defeat the authorization as inconsistent with section 202(a), including technological feasibility, the cost of compliance, safety, and lead time.

EPA received a variety of comments concerning the reliability and safety of diesel retrofits. One commenter noted that the California Occupational Health and Safety Board has established safety standards for installation and operation of the retrofits.<sup>157</sup> Another commenter noted that attempts to meet emission levels by using filtering equipment have failed – to the extent that the 2010 amendments eliminated the retrofit requirement altogether and made diesel particulate filters (DPFs) voluntary only, due to limitations in safety, reliability, and functionality.<sup>158</sup>

In addition to the concerns about retrofits noted above, EPA also received comment questioning whether EPA’s regulation for replacement engines has eliminated fleets’ ability to choose engine replacement or repower compliance strategies, which the commenter claimed to be the only cost effective means to achieve the fleet average emission standards. This commenter noted that one compliance option is to replace equipment with the newest equipment available but that this is impractical for most contractors due to the cost of new equipment. For example, a new scraper or bulldozer can cost over \$1,000,000. The second option is to repower an older machine with a new engine (replacing a Tier 0 engine with a Tier 3 engine with a cost of

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<sup>156</sup> To the extent that the “need” for the Fleet Requirements to meet California’s air quality goals is relevant to EPA’s consideration of CARB’s authorization request we examine this under the second authorization criterion of section 209(e)(2)(ii) above.

<sup>157</sup> ARTBA and Allfishch Contractors.

<sup>158</sup> United Contractors.



\$150,000 or more). The commenter suggested this second option is far more practical as the equipment is designed to last for 30 years or more. The commenter contends that EPA's replacement engine regulation at 40 CFR 1068.240 prohibits the repowering of a machine unless the engine has "prematurely failed." This roadblock makes compliance impossible according to the commenter.<sup>159</sup>

EPA also received comment stating that attempts to repower or replace existing older engines with newer, cleaner technology have encountered the practical issue of compatibility. "The new engines either don't fit the old chassis, or require additional alterations or replacement of other systems (such as cooling units) in the old unit. Thus, cost-effectiveness of modifying such older units becomes problematic."<sup>160</sup> This commenter does not note the availability of retrofit, but instead noted that the alternative to repower is retirement and replacement.

Finally, EPA received a number of comments suggesting that the Fleet Requirements are generally not cost-effective, given the makeup of the current fleet.

EPA received comment in favor of CARB's Authorization Request from the Manufacturers of Emission Control Association (MECA), which supported CARB's original 2007 rule, and continues to support the current rule while requesting that EPA grant this authorization. MECA contends that a number of advanced emission control technologies already exist with the capability to significantly reduce PM and NO<sub>x</sub> emissions from the engines subject to CARB's regulation, and that over 250,000 systems (retrofits) have been installed on off-road engines worldwide. MECA also disputes safety concerns surrounding these systems, citing statistics that 35,000 diesel particulate filters have been installed in California, with fewer than 15 safety-related issues, all of which "were shown to be attributed to poor engine or device

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<sup>159</sup> See CIACQ.

<sup>160</sup> See United Contractors.

maintenance, misapplication of devices, or the ignoring of warning alarms by the operator.”

MECA does not support the implementation delays built into the CARB’s 2010 amendments, but nonetheless asks EPA to grant the request.

In response to comments from opponents of the authorization, CARB states that the opponents have not met their burden of showing that the regulation is inconsistent with section 209(b)(1)(C). CARB continues to rely upon the information presented in its Authorization Request and earlier submissions and maintains that California has amply demonstrated that the performance standards of the regulation are technologically feasible in the lead time provided, giving appropriate consideration to costs. CARB states that its position that the feasibility of the performance standards of the regulation are amply demonstrated is consistent with past EPA authorizations for in-use vehicles and equipment, in which EPA has stated:

[S]ection 202(a) consistency calls for a limited review of technological feasibility, including analysis of the cost of new technology, if technology does not currently exist. Section 202(a) does not allow EPA to conduct a more searching review of whether the costs are outweighed by the overall benefits of the California regulations.

CARB notes that the costs of the regulation, which was amended for the express purpose of providing fleets with significant economic relief during the recovery from the nation’s economic downturn, cannot be characterized as so prohibitive as to render the regulation infeasible. In fact, CARB notes the 2010 amendments have significantly reduced the costs of compliance for all fleets by reducing the number of specific compliance actions that a fleet must undertake:

By delaying initial implementation of the regulation, revising target and BACT compliance rates downward, and by providing fleets with greater compliance flexibility (vehicle exemptions, compliance extensions, and special credits), between 2010 and 2015, the costs for large fleets will be reduced by approximately 97 percent, from over \$1 billion to approximately \$33 million (2010 dollars). Total costs over the life of the off-road regulation would be

reduced by approximately 72 percent, which represents a cost savings of over \$1.5 billion (2010) dollars). Peak year costs would be postponed from 2013 to 2019 and reduced almost 73 percent, from \$542 million to \$146 million (2010 dollars).

With the amendments, CARB maintains fleets are in a better position today to effectively pass on the reduced amortized costs of the regulation to their customers.

CARB references the testimony of AGC at EPA's public hearing which characterized the regulation's cost as reasonable.<sup>161</sup>

CARB also notes, that to the extent that some companies may be more adversely impacted than others, CARB had previously stated in its authorization request:

The costs to fleets for compliance varies dramatically, depending upon the size of the fleet, the type of vehicles and equipment used by the fleet, the age of the vehicles in the fleet, the fleet's normal fleet replacement practices, and the compliance pathway chosen. Regarding the last variable, fleets have wide discretion on how they choose to comply; which vehicles should be controlled first, should a [verified diesel emission control strategy] VDECS be installed, or should the vehicle or engine be turned over. If turnover is selected, does the fleet choose to rebuild a vehicle's existing engine, report the engine with a newer, cleaner engine, replace the older vehicle with a newer vehicle with a cleaner engine, etc; does the fleet elect to designate a vehicle as low use. Each of these decisions will determine the actual compliance costs for the fleet.

In the context of responding to fleet contractors who may have the financial inability to meet the compliance costs, CARB states that EPA has previously addressed this general issue in a separate proceeding:

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<sup>161</sup> CARB Written Comments at 15, citing to the Hearing Transcript at p. 87. AGC noted that California's construction contractors invested enormous sums in the equipment in the reasonable expectation that they could lawfully operate and use it for the duration of its useful life. AGC also noted, anecdotally, that contractor defaults in 2012 will be higher than in any of the previous three years and thus EPA's review of CARB's most recent amendments is of interest and concern to AGC's members. AGC had requested EPA to delay prior proceedings on California's Fleet Requirements given ongoing announced plans by CARB to revisit at least portions of CARB's rule. AGC had been deeply concerned about the costs and other estimates CARB had made, about the technology that contractors would require to comply, and the lead time provided. AGC noted at EPA's authorization hearing that "reasonable people may disagree about whether the rule merits federal approval, but AGC is not prepared to dispute a resolution that goes either way." "At the time [of the 2010 amendments], from our members in California [AGC members], ..., the costs of the amended rule were considered reasonable. We would not have agreed to that package of amendments ... if they were not considered to be reasonable."

Regarding small businesses, the Owner-Operator Independent Drivers Association (OOIDA) commented that the transport refrigeration units (TRU) air toxic control measure (ATCM) places a "particularly onerous financial burden on small business truckers" with small fleets (20 or fewer trucks) making up 95% of the industry.... EPA believes that the CARB regulations are feasible with respect to cost objectively; i.e., all fleet operators face the same cost per unit to comply. While this cost may have different impacts on fleets of varying sizes, EPA recognizes that it is up to CARB to choose who it will regulate under its standards. Because these TRU engines do emit significant amount of pollution and the cost of compliance are not so large as to render the compliance options objectively out-of-reach, the fact that some operators may have difficulties with the cost of the program does not make the Program infeasible.

CARB notes that EPA's previous statements regarding feasibility with regard to analyzing cost objectively and CARB's discretion to choose who and how it may regulate under its standards also holds true for its Fleet Requirements. CARB notes that in the context of the Fleet Requirements the technology itself is feasible and has not been questioned; and that the objective costs of the regulation – as conceded by some members of industry – are reasonable.

With regard to ARTBA and other commenters' contention that small companies will be severely affected by the Fleet Requirements because of the costs of repowering and retrofitting vehicles and that these companies do not have the resources to comply, CARB states that this overlooks the fact that the amended regulations have significantly reduced the costs of compliance and have extended the date of compliance along with a variety of compliance options. CARB notes that the total costs of compliance of the regulation have been reduced by approximately 72 percent. In addition, the compliance costs for smaller fleets are lower than the costs for larger fleets in that small fleets are exempted from having to turnover vehicles to meet the regulation's BACT requirements.<sup>162</sup>

CARB also addressed the issue of whether its new engine replacement provisions are inconsistent with EPA's regulations and therefore not a feasible compliance path for fleet

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<sup>162</sup> Title 13, CCR, section 2449.1(b)(3)(C).

operators in California. As CARB notes, and CIAQC's comments maintain, repowering under CARB's existing regulatory authority pertaining to new nonroad CI engine regulations is, in many instances, technologically feasible at a significantly lower cost than replacing an older vehicle with a new one. CARB acknowledges that repowering is not possible in all circumstances but nevertheless is often a cost-effective option for older equipment and vehicles. CARB references comment from Altfillisch, as one example, that it has been able to repower at least 71 nonroad vehicles and equipment between 2001 and 2005, years before the Fleet Requirements went into effect.

With respect to whether EPA's replacement engine regulations are inconsistent with CARB's replacement engine regulations, CARB notes that EPA has previously authorized the CARB nonroad CI emission standards applicable to new engines and equipment which included CARB's replacement engine regulations.<sup>163</sup> Therefore California fleet operators are subject to CARB's replacement engine regulations which substitute for EPA's replacement engine provisions in California.<sup>164</sup>

In response to concerns that the Fleet Requirements are not technically feasible due to the unavailability of Tier 4 engines, CARB references its March 1, 2012 Authorization Request wherein it states:

It is not until 2018 that the regulation requires large and medium fleets to replace vehicles and engines with only Tier 3 and Tier 4 engines. By 2018, Tier 3 engines will have been available for at least ten years, Interim Tier 4 engines for at least 7 years, and Tier 4 engines for at least 3 years. Additionally, the regulation provides relief to fleets if there is a delay in availability of vehicles that would be required to use Tier 3 or Tier 4 interim of final Tier 4 emission standards.

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<sup>163</sup> See 75 FR 8056, 8060 (February 23, 2010).

<sup>164</sup> See CARB Mail Out # MSC 13-07 (March 11, 2013), *see also* CARB Supplemental Comments.

CARB noted that there is no basis to ARTBA's conjecture regarding Tier 4 engine unavailability during the applicable time frame.<sup>165</sup>

Finally, with respect to the compliance option of VDECS or retrofits, CARB's supplemental comments clarify that the regulation never required unsafe retrofits to be installed, and retrofit safety is even less of a concern since the regulation, as amended, removes all mandatory installation of VDECS. CARB explains that the regulation, as initially adopted, only required retrofit of a specified percentage of vehicles if the fleet operator could not meet the PM fleet average targets. The amendments have since removed this requirement and, in addition, the California Occupational Health Standards Safety Board (OSHSB) has adopted amendments to its construction safety orders (after working with CARB) to ensure that any retrofit will not affect the capacity, structural integrity, or safe performance of the vehicle in which it is installed nor create a risk of fire or operator contact with the exhaust system or impair the vision of the operator. CARB's 2010 amendments to the Fleet Requirements continue to provide that no VDECS are required to be installed if in violation of the amended OSHSB safety order and, as noted above, there is no longer a mandate that a specified percentage of vehicles be retrofitted if the fleet average is not met.<sup>166</sup>

As explained below, EPA agrees with CARB's presentation of how technological feasibility should be evaluated, for purposes of authorization review by EPA, and that CARB has provided ample evidence of the feasibility of the Fleet Requirements overall, and the feasibility with respect to individual compliance options. CARB has presented appropriate evidence of the feasibility and availability of new nonroad CI engines along with appropriate replacement engines and retrofits.

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<sup>165</sup> CARB Written Comments at 17.

<sup>166</sup> *Id.* at 17-18.

CARB has also properly set forth the role of EPA in reviewing California in-use performance standards which require legacy fleets to achieve challenging emission reductions. EPA is not setting its own standards under section 202(a) of the Clean Air Act, rather EPA's role within its authorization review is more limited and takes place in the context of deference that Congress envisioned for California. This deference was discussed in an early waiver decision when EPA approved the waiver request for California's 1977 model year standards:

Even on this issue of technological feasibility I would feel constrained to approve a California approach to the problem which I might also feel unable to adopt at the Federal level in my own capacity as a regulator. The whole approach to the Clean Air Act is to force the development of new types of emission control technology where that is needed by compelling the industry to 'catch up' to some degree with newly promulgated standards. Such an approach to automotive emission control might be attended with costs, in the shape of a reduced product offering, or price or fuel economy penalties, and by risks that a wider number of vehicle classes may not be able to complete their development work in time. Since a balancing of these risks and costs against the potential benefits from reduced emissions is a central policy decision for any regulatory agency, under the statutory scheme outlined above I believe I am required to give very substantial deference to California's judgement on that score.<sup>167</sup>

CARB has set forth a series of compliance options to address emissions from its legacy fleet of NR CI engines. Fleet operators may choose from these compliance options. As explained below, EPA does not believe those opposing these regulations have met their burden of showing that the regulations are not technologically feasible.

Further, while EPA acknowledges the comments it has received that claim that the Fleet Requirements may have significant adverse economic affect on individual fleet operators, the Agency finds no factual basis for determining that the Fleet Requirements are objectively cost prohibitive. To the extent that a balancing of risks attendant with adverse effect on some fleet operators against the benefits of addressing the emission inventory associated with the legacy fleet in California, EPA gives that the same substantial deference (as with past waivers) to

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<sup>167</sup> 40 FR 23102, 23103 (May 28, 1975); *see also* 78 FR 2112 (January 9, 2013).

California's judgment regarding the balancing of the risks and costs of regulation against the potential benefits from reduced emissions. CARB has gone through several significant rounds of amendments to address in part the economic cost associated with the Fleet Requirements and has afforded the fleet operators a significant number of compliance options and delays in initial compliance in order to objectively address the risks associated with costs.

At the outset, EPA believes it important to note that we agree with CARB's assessment that the Fleet Requirements will be feasible given the technology available today along with the technologies that CARB projects to be available in the lead time provided.

First, several commenters noted their concern that one of the more cost effective compliance options, the replacement of engines or repowering, is precluded as it conflicts with EPA's engine replacement policy at 40 CFR 1068.240. EPA has previously authorized CARB's emission standards applicable to new NR CI engines and the regulations in that authorization included CARB's replacement engine provisions. Therefore, CARB's replacement engine provisions, not EPA's provisions, are the applicable provisions for the purposes of these Fleet Requirements. In addition, EPA has recently published a direct final rule and accompanying notice of proposed rulemaking that adopts modifications to the Agency's replacement engine provisions to allow, on a limited basis, the practice of replacing engines with engines that are cleaner, but not certified to the most stringent standards, even where the original engines have not failed prematurely.<sup>168</sup> Therefore, EPA's replacement engine provisions do not prevent use of repowering as a method of complying with CARB's regulations.

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<sup>168</sup> See <http://www.epa.gov/otaq/climate/documents/420f13001.pdf>, and <http://www.gpo.gov/fdsys/pkg/FR-2013-06-17/pdf/2013-11980.pdf>. The EPA received adverse comment on a portion of the Direct Final Rule, but no commenter objected to the provision allowing repowering using engines that are not certified to the most stringent standards.



Second, with respect to fleet operators choosing to replace their equipment with new cleaner vehicles and commenters questioning the availability of such vehicles (e.g., Tier 3, interim Tier 4, and Tier 4), EPA notes that these standards have already been reviewed by EPA in the context of its own rulemakings, and EPA has found these standards to be feasible in a timeframe allowing even less lead time than that provided by California. EPA annually certifies new NR CI engines and the certification data to date strongly suggest that engine manufacturers are certifying to meet the newest applicable standards, and that these standards are feasible.<sup>169</sup> EPA believes CARB is reasonable in its depiction of currently available emission control technology and with its projection of sufficient lead time being available to ensure that a sufficient supply of newer emission control technologies (meeting newer Tier 3, and interim and final Tier 4 emission standards) is in place to meet the demands of fleet operators. As CARB notes, the comments contending otherwise have not provided any evidence that in 2018 large and medium-sized fleet operators will not be able to replace vehicles and engines with Tier 3 and Tier 4 engines. In addition, to the extent a fleet operator replaces such vehicles and engines, CARB's Fleet Requirements also provide relief to fleets if there is a delay in availability of vehicles that would be required to use Tier 3 or Tier 4 interim or final Tier 4 emission standards. Finally, there is no evidence in the record indicating a shortage of certified engines during the time frame for which they will be needed for this rule, given the flexibilities provided by the amendments. The opponents of the waiver have not met their burden of proof to demonstrate the lack of commercial availability of appropriate engines to the extent that the regulations would be infeasible.

Third, with respect to the technical feasibility of exhaust retrofits (VDECS) and the safety-related and compatibility concerns expressed by commenters, EPA believes that CARB's

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<sup>169</sup> <http://www.epa.gov/otaq/certdata.htm#nrci>

2010 amendments add both the needed flexibility, with respect to not mandating retrofits, and sufficiently clarify when a NR CI vehicle is exempted due to expressed safety concerns. The Fleet Requirements never required unsafe retrofits be installed, and retrofit safety is even less of a concern now that the regulation has been amended to remove all mandatory installation of VDECS, even if fleet average targets are not met.<sup>170</sup> EPA believes that CARB has also appropriately addressed expressed concerns regarding retrofit safety, including referencing the amendments adopted by OSHSB. These amendments, adopted in March 2012, state that a safety order will be provided in order to ensure that a retrofitted VDECS shall not affect the capacity, structural integrity, and safe performance of the vehicle in which it is installed nor create a fire or safety risk or impair the operators' vision.<sup>171</sup> EPA also notes that the CARB staff reviewed retrofit field experience since 2002. Of the 35,000 diesel particulate filters (DPFs) deployed in the state, less than 15 safety-related issues were identified and all of these were shown to be attributed to poor engine or device maintenance, misapplication of devices, or the ignoring of warning alarms by the operator.<sup>172</sup> With regard to the availability of VDECS in general, there is no evidence in the record to refute CARB's view that the Fleet Requirements are likely to continue to increase the demand for retrofits and that CARB's anticipation that an increase in supply will occur as compliance deadlines approach is reasonable. CARB has identified a number of verified Level 3 VDECS and the commenters have not shown that this option does not provide a feasible alternative in many cases to meeting the Fleet Requirements.<sup>173</sup>

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<sup>170</sup> CARB Supplemental Comments at 17-18.

<sup>171</sup> *Id.*

<sup>172</sup> MECA at 4. "Regarding the safe installation of retrofit devices, retrofit manufacturers have shown that off-road retrofits can be installed to comply with the Cal/OSHA retrofit visibility/safety requirements finalized last year. Retrofit manufacturers are using the best engineering judgment and installation practices to ensure the safe installation of devices. In general, retrofit installations in California have had an excellent safety record.

<sup>173</sup> Authorization Request at 24. *See also* EPA's list of currently verified technologies at: <http://www.epa.gov/cleandiesel/verification/verif-list.htm>, and generally: <http://www.epa.gov/cleandiesel/technologies/>.

EPA also believes it important to note that CARB's fleet average targets have been set so that they progressively become more stringent over the years in order that CARB's emission reductions goals are met while affording fleet operators with necessary flexibility and compliance options. In addition, CARB's four-year delay in compliance (from 2010 to 2014) helps ensure the feasibility of the regulation along with built-in provisions that ensure against noncompliance with the Fleet Requirements due to the unavailability of the highest tiered engines or VDECS. In addition, CARB's BACT credits compliance path includes a number of accommodations (e.g. accrual of credits earned prior to March 1, 2010 may in certain circumstances be applied toward a large fleets' January 1, 2014 compliance deadline; double credits for early installation of VDECS; credit for reduced horsepower of the fleet, etc). There are also a number of exemptions under the BACT requirements applicable to large and medium fleets, and separately for small fleets. For example, vehicles in any size fleet are exempt from the BACT credit requirement calculation if on any given annual compliance date the vehicle is less than ten years old from the date of manufacture, and specialty vehicles are exempt if the fleet has applied BACT to all other vehicles in the fleet and no engine is available to repower the specialty vehicle and instead has the highest level VDECS available installed. In addition, for large and medium fleets, a vehicle is exempt if it had a Level 2 or 3 PM VDECS installed within the last six years and for small fleets the vehicle is exempt if has already been retrofitted with a Level 2 or 3 VDECS that was the highest level PM VDECS available at the time of installation. Regarding the claim that the regulations require an initial repower or retrofit and then a replacement of an entire piece of equipment shortly thereafter, CARB's 2010 amendments also provide an exemption for vehicles that have had a level 2 or 3 PM VDECS installed within the last six years and an exemption for original equipment manufacturer diesel PM equipped

vehicles and, with certain limitations, to vehicles that installed highest level VDECS prior to 2013. These further accommodations help assure the feasibility of the Fleet Requirements.

Although certain fleet operators contend that their business will either be severely or irreparably harmed (as reviewed further below), the commenters opposing the authorization have not provided any factual evidence in the record to demonstrate that a mix of available compliance options and flexibilities is not feasible.

EPA believes that CARB has afforded a variety of compliance options (and initial delays of the phase-in periods for compliance) that individual fleet operators can employ in a variety of ways depending on the nature of their business and the composition of their fleets. Accordingly, with regard to the consideration of cost of the Fleet Requirements (including comments that the regulation will diminish the net value of certain fleet operators which will further impair their ability to finance the upgrades necessary to comply with the regulation or to obtain construction bonds), we note at the outset that many factors affect the ability of certain fleet operators to meet the Fleet Requirements. While it is possible that some diminishment in value of certain fleet operator equipment will occur as a result of the Fleet Requirements (while recognizing that CARB has significantly delayed the requirement that such engines be replaced), there is no evidence or data in the record to demonstrate that the loss in value to the fleet operator is the proximate cause of such operations going out of business or that such economic results render the Fleet Requirements infeasible for the broader regulated community. EPA believes that CARB has reasonably responded to concerns expressed about the costs of the Fleet Requirements, including the availability of engine replacements and retrofits. EPA notes that even some commenters otherwise opposed to the authorization have recognized the feasibility of early engine replacement. In addition, there is no evidence in the record to reflect a widespread

or significant economic disruption to regulated fleet operators that is proximately caused by the Fleet Requirements.<sup>174</sup>

More importantly, EPA believes that the CARB regulations are feasible with respect to cost objectively; i.e., although fleets are likely to be comprised differently, all fleet operators are nevertheless facing the same cost per unit to comply. While this cost may have different impacts on fleets of varying sizes, EPA recognizes that it is up to CARB to choose who it will regulate under its standards.<sup>175</sup> The fact that some operators may have difficulties with the cost of the program does not make the program infeasible.<sup>176</sup>

In addition, under the guidelines of *MEMA I*, EPA believes that it should evaluate costs in authorization requests by looking at the actual costs of compliance in terms of the lead time provided by the regulations, and not at the regulation's cost-effectiveness. It is CARB's responsibility to determine the best way to reduce emissions in its state, and EPA does not reevaluate California's policy decisions in deciding whether to grant authorization, as long as, pursuant to section 209(e), the regulations can be met without making the costs prohibitive. The comments received regarding cost-effectiveness do not show that the costs for fleet operators generally will be prohibitive. California's estimates of the costs of the regulation are reasonable and CARB has rebutted the argument that small fleet operators in general will not be able to meet the requirements.<sup>177</sup> EPA also agrees with CARB's statement that EPA has long deferred to

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<sup>174</sup> Regarding comments that these regulations would stop valuable work to be performed by this industry in California, there is no evidence that this rule has led to the widespread cancelation of projects.

<sup>175</sup> CARB notes that the increased costs, due to the Fleet Requirements, to small fleet operators is on the magnitude of \$38,000 for the youngest fleets to \$173,000 for the oldest fleets (cite) and such costs have not been countered by opponents of the authorization.

<sup>176</sup> EPA has previously stated that it is up to CARB to choose who it will regulate under its standards, even though such costs may have differing impacts for different fleets. *See* 74 FR 3030 (January 16, 2009), TRU Decision Document at 63.

<sup>177</sup> CARB's Authorization Request at 25. CARB notes that small fleets are expected to be able to fully comply with the regulation if it routinely turns over its vehicles and equipment and meet the emission target rates and have little or no compliance costs associated with the regulation. To the extent normal turnover is insufficient, CARB notes

California's policy judgments associated with cost-effectiveness "EPA will not look into the question of cost-effectiveness – that is, whether the overall benefits of the regulation are outweighed by the regulation's costs of compliance."<sup>178</sup> Consequently, based on the record, EPA is unable to make the finding that the Fleet Requirements are not technologically feasible with the available lead time giving consideration to the cost of compliance.

b. Consistency of Certification Procedures

California's standards and accompanying enforcement procedures would also be inconsistent with section 202(a) if the California test procedures were to impose certification requirements inconsistent with the federal certification requirements. Such inconsistency would mean that manufacturers would be unable to meet both the California and federal testing requirements using the same test vehicle or engine.<sup>179</sup> CARB presents that the Fleet Requirements raise no issue regarding incompatibility of California and federal test procedures. "There is no requirement on engine manufacturers or fleet owners to certify engines beyond existing federal and state certification testing for new engines. Additionally, there are no conflicts between federal and California test procedures for verification testing for diesel emission control strategies in that there is no comparable mandatory federal program."<sup>180</sup> EPA received no comments suggesting that CARB's Fleet Requirements pose any test procedure consistency problem. Therefore, based on the record, EPA cannot find that CARB's testing

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small fleets are expected to comply through installation of VDECS (If a small fleet cannot be retrofitted with a VDECS that vehicle is exempt from the BACT requirements, including turnover), by exercising the special option for fleets with less than 500 total horsepower, designating vehicles as low-use, and by exercising the small fleet vehicle exemptions along various other exemptions, credits, etc.

<sup>178</sup> *Id.*, citing 58 FR 4166 (January 7, 1993), Decision Document at 20 ["Since a balancing of these ... costs against the potential benefits from reduced emissions is a central policy decision [of CARB is adopting the regulation] I believe I am required to give very substantial deference to California's judgments on this score."].

<sup>179</sup> *See, e.g.*, 43 FR 32182 (July 25, 1978).

<sup>180</sup> CARB Authorization Request at 28.

procedures are inconsistent with section 202(a) and cannot deny CARB's request based on this criterion.

*D. Additional Issues Raised in Comment*

EPA received a series of comments on grounds other than those specified in section 209(e)(2)(A) of the Act. These comments include several administrative concerns including the lack of a public hearing in California and a request to reopen the public comment period (and to stay the issuance of a final EPA decision). We also received a number of comments objecting to the authorization based on other federal law or constitutional claims. As set forth below, EPA has complied with all relevant administrative process requirements for this proceeding and none of the comments described above provide any basis for denying CARB's Authorization Request.

1. Request for a Public Hearing in California

EPA received comment during the course of the public comment period associated with EPA's August 12, 2012 *Federal Register* notice requesting that EPA conduct a public hearing or hearings in California in order for those affected by CARB's regulation, the fleet operators, to be directly heard and for those unable to travel to Washington, DC be afforded the opportunity to express their concerns to EPA.

Section 209(e)(2)(A) states in part that "...the Administrator shall, after notice and opportunity for public hearing, authorize California to adopt and enforce standards and other requirements relating to the control of emissions from such nonroad vehicles or engines...." EPA's process for providing an opportunity for public comment on the CARB Fleet Requirements was consistent with the normal process EPA applies in response to this language. EPA has consistently announced in the *Federal Register* the opportunity for a public hearing for any authorization request received from CARB. As a general matter EPA has also offered an

opportunity for written comment which has opened on the date of the *Federal Register* notice and closed on a date after the public hearing. As part of EPA's public hearings, the presiding officer has consistently stated that the hearing was being conducted in accordance with section 209(e) of the Clean Air Act and that any interested parties have the opportunity to present both oral testimony and written comments. While EPA occasionally has held hearings in California, the vast majority of hearings on section 209 proceedings have occurred in Washington, DC. EPA has been conducting its section 209(b) waiver proceedings and section 209(e) authorization proceedings in this manner for decades, and although Congress has amended provisions in section 209 on two separate occasions, Congress has not chosen to alter EPA's administrative requirements.

EPA is guided by the principles of fair public notice and opportunity for comment. In this instance, EPA published notice of CARB's authorization request in the *Federal Register*, including the Clean Air Act prescribed authorization criteria EPA would review in consideration of CARB's request, and provided more than 30 days of notice before conducting a public hearing. EPA conducted a properly noticed public hearing in Washington, DC which was attended by several trade associations representing numerous members and fleet operators within California.<sup>181</sup> EPA has placed the transcript of the public hearing into the public docket. After the public hearing EPA provided an additional 30 days for interested parties to submit written comment addressing all relevant issues pertaining to California's authorization request. The affected parties have had in their possession the necessary information to adequately comment on whether the Fleet Requirements are technologically feasible as well as CARB's protectiveness determination. Opponents have had access to the necessary information to

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<sup>181</sup> As explained in EPA's July 2009 GHG waiver decision, EPA is guided by the language in the Clean Air Act and not the hearing requirements set forth in the Administrative Procedure Act. EPA incorporates that reasoning into today's decision. See 74 FR 32744, 32780-32782 (July 8, 2009).



formulate comments in regard to the second waiver criterion at section 209(e)(2)(A)(ii). All written comments have been placed in the public docket. EPA was responsive to the desire expressed by some commenters to speak directly with representatives to EPA, including the desire to explain the economic impacts the Fleet Requirements may have on their businesses. In response, EPA conducted and made available an informal teleconference phone call for interested parties in California with representatives from EPA.<sup>182</sup> This *Federal Register* notice provides EPA's reasoned response to all oral testimony, written comment, and viewpoints expressed to EPA. All commenters, including opponents of the waiver, have had ample opportunity to comment and meet their applicable burdens of proof. Opponents of CARB's Fleet Requirements and of its authorization request have had ample opportunity to present their viewpoints during the course of CARB's rulemaking and EPA's authorization proceeding. Lastly, as noted above, CARB has engaged in several proceedings and has adopted a series of amendments in response to concerns raised by the regulated parties, including fleet operators.

## 2. Request for EPA to Reopen the Comment Period

EPA received comment from PLF characterized as a "Notice of New Development and Supplemental Comment" requesting that EPA reopen the comment period associated with the Fleet Requirements authorization request and to hold in abeyance any decision regarding California's authorization request. PLF points to the recent decision issued by the United States Court of Appeals for the District of Columbia Circuit in *Natural Resources Defense Counsel v. EPA*, No 08-1250, January 4, 2013, (Decision) for the proposition that the court's decision and CARB's authorization application are inextricably linked. PLF characterizes the Decision as requiring EPA itself to adopt stringent federal implementation standards for PM<sub>2.5</sub> throughout the nation, including California. Because California asserted that it "needs" PM<sub>2.5</sub> nonroad diesel

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<sup>182</sup> EPA-HQ-OAR-2008-0691-0321.

standards that are more stringent than federal PM<sub>2.5</sub> standards, and because EPA is now required to use the “stringent, action-forcing provisions” of section 188-188(b) of the Clean Air Act as a result of the Decision, PLF maintains that it is appropriate to complete EPA’s administrative proceedings on remand (from the Decision) before EPA is able to determine the extent to which there is a “need” for California to have its own PM<sub>2.5</sub> standard based on “compelling and extraordinary conditions” in California. In addition, PLF asserts that EPA’s most recent revision of the NAAQS PM<sub>2.5</sub> primary standard, which lowers the existing level to 12.0 micrograms per cubic meter, and the concomitant revision to the Air Quality Index for PM<sub>2.5</sub>, provides additional reason to question California’s “need” for its own PM<sub>2.5</sub> nonroad diesel standard.<sup>183</sup> EPA responds to the substance of PLF’s comments above in our discussion of the second criterion for authorization.

As discussed above, EPA does not agree that the recent decision of the Court of Appeals has any significant effect on the second criterion for granting authorization. Moreover, PLF has had a full opportunity to make its argument with regard to this new decision and its potential effect on this authorization determination, and EPA has responded in full to PLF’s comments. We therefore believe there is no need for a further reopening of the comment period for this proceeding; nor is there any cause for any delay in issuing our decision with regard to the authorization. Therefore, we deny PLF’s request to reopen the authorization comment period and to delay issuing an authorization decision for the Fleet Requirements.

### 3. Claims Outside the Scope of the Clean Air Act

Airlines for America (“A4A”) has provided comment opposing EPA authorization of California’s Fleets Regulation. A4A claims that the Fleet Requirements, as they affect airport

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<sup>183</sup> Although PLF expresses the NAAQS PM<sub>2.5</sub> primary standard in “micrometers,” the correct unit of measure is micrograms.

ground equipment, are preempted by the Federal Aviation Act and the Airline Deregulation Act. These comments are outside the scope of EPA's scope of review of California authorization requests under section 209(e)(2). As EPA has stated on numerous occasions, EPA's review of California regulations under section 209 is not a broad review of the reasonableness of the regulations or its compatibility with all other laws. Sections 209(b) and 209(e) of the Clean Air Act limit EPA's authority to deny California requests for waivers and authorizations to the three criteria listed therein. As a result, EPA has consistently refrained from denying California's requests for waivers and authorizations based on any other criteria.<sup>184</sup> In instances where the U.S. Court of Appeals has reviewed EPA decisions declining to deny waiver requests based on criteria not found in section 209(b), the Court has upheld and agreed with EPA's determination.<sup>185</sup> A4A's comment raises issues of federal preemption that are not included within the criteria listed under sections 209(e).<sup>186</sup> Therefore, in considering whether to grant authorization for California's Fleet Requirements under section 209(e), EPA cannot deny California's request for authorization based on the issues raised by A4A.

EPA also received comment suggesting that EPA and California must certify CARB's Fleet Requirements as "not having a significant economic impact on a substantial number of small entities" under the Regulatory Flexibility Act (5 USC 601).<sup>187</sup> EPA notes that CARB's authorization request and EPA's subsequent action do not constitute a rule as defined in the Regulatory Flexibility Act, 5 U.S.C. 601(2), and therefore are not covered by the certification requirement in that statute. EPA's authorization proceedings and actions under section

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<sup>184</sup> See, e.g., 74 FR 32744, 32783 (July 8, 2009).

<sup>185</sup> See *Motor and Equipment Manufacturers Ass'n v. Nichols*, 142 F.3d 449, 462-63, 466-67 (DC Cir.1998), *Motor and Equipment Manufacturers Ass'n v. EPA*, 627 F.2d 1095, 1111, 1114-20 (DC Cir. 1979).

<sup>186</sup> A4A may raise these issues in a direct challenge to California's regulations in other forums, but these issues are not relevant to EPA's limited review under section 209.

<sup>187</sup> Delta Construction, May 12, 2010 comment at 3 (Citing 42 USC 7410(k) and 40 CFR 52.02(a)).

209(e)(2)(A) are informal adjudications. In an authorization proceeding, EPA receives a request from one entity (CARB) that is presenting an existing regulation established as a matter of California law. The request is for an EPA authorization for that party, so it may adopt and enforce the specific regulations. In deciding this request, EPA interprets and applies the three authorization criteria established by the Act, and under this provision is required to grant the authorization unless EPA makes one of the three specified findings. EPA applies the pre-existing law, section 209(e)(2)(A), and EPA's regulation promulgated therein, to a specific request covering a specific regulation, and applies the three statutory criteria to the facts of the specific request.

The decision to grant or deny the authorization request directly affects the legal rights of the party before EPA, California. If EPA grants the authorization, then CARB may enforce its state regulations. Other parties, for example, the fleet operators, may be indirectly affected because state regulation is no longer preempted. While there may be indirect consequences for various parties, the only decision taken by EPA in the authorization proceeding is the decision that permits the State of California to adopt and enforce its state regulations. As noted above, sections 209(b) and 209(e) of the Clean Air Act limit EPA's authority to deny California requests for waivers and authorizations to the three criteria listed therein. As a result, EPA has consistently refrained from denying California's requests for waivers and authorizations based on any other criteria.<sup>188</sup> Review of California regulations under the Regulatory Flexibility Act is not included within the criteria listed under sections 209(e). Indeed, Congress intended EPA to provide California with substantial deference in making its own decisions regarding the effects of its regulations. Therefore, in considering whether to grant authorization for California's Fleet Requirements under section 209(e), EPA is not required to undertake a review under the

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<sup>188</sup> See, e.g. 74 FR 32744, 32783 (July 8, 2009).

Regulatory Flexibility Act and could not deny California's request for authorization based on any such review.

#### 4. Constitutional Claims

EPA received a number of comments suggesting that EPA should deny authorization of the Fleet Requirements because of their potential to impose negative economic impacts on fleets. These comments stated that the regulations would cause emissions control equipment that fleet operators purchased before CARB's regulations took effect to lose its asset value, even though the equipment still has a long useful life. The comments suggest that CARB's regulation amounts to a "taking" as defined under the Fifth Amendment to the U.S. Constitution and "appropriate sections of California Constitution and Law." EPA's response to these comments is guided first by the language in section 209(e)(2)(A) that clearly sets forth the limited criteria or basis by which we may deny an authorization request from CARB. EPA's limited ability to deny an authorization request to the criteria found in section 209(e)(2)(A) of the Act is consistent with case law.<sup>189</sup> Therefore, in considering whether to grant authorization for California's Fleet Requirements under section 209(e), EPA cannot deny California's request for authorization based on constitutional arguments outside the scope of the Clean Air Act. Moreover, such arguments are best directed against California directly in a court of law, not to a separate government agency with only a limited authority to review California's regulations.

#### *E. Authorization Determination for California's Fleet Requirements*

After a review of the information submitted by CARB and other commenters, EPA finds that those opposing California's request have not met the burden of demonstrating that authorization for California's Fleet Requirements should be denied based on any of the statutory

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<sup>189</sup> *MEMA I.*

criteria of section 209(e)(2)(A). For this reason, EPA finds that an authorization for California's Fleet Requirements should be granted.

#### **IV. Decision**

The Administrator has delegated the authority to grant California section 209(e) authorizations to the Assistant Administrator for Air and Radiation. After evaluating California's Fleet Requirements, CARB's submissions, and the public comments received, EPA is granting an authorization to California for its Fleet Requirements.

My decision will indirectly affect not only persons in California, but also entities outside the state who must comply with California's requirements. For this reason, I determine and find that this is a final action of national applicability for purposes of section 307(b)(1) of the Act. Pursuant to section 307(b)(1) of the Act, judicial review of this final action may be sought only in the United States Court of Appeals for the District of Columbia Circuit. Petitions for review must be filed by [INSERT DATE SIXTY DAYS AFTER FR PUBLICATION DATE OF THIS NOTICE]. Judicial review of this final action may not be obtained in subsequent enforcement proceedings, pursuant to section 307(b)(2) of the Act.

#### **V. Statutory and Executive Order Reviews**

As with past authorization and waiver decisions, this action is not a rule as defined by Executive Order 12866. Therefore, it is exempt from review by the Office of Management and Budget as required for rules and regulations by Executive Order 12866.

In addition, this action is not a rule as defined in the Regulatory Flexibility Act, 5 U.S.C. § 601(2). Therefore, EPA has not prepared a supporting regulatory flexibility analysis addressing the impact of this action on small business entities.

Further, the Congressional Review Act, 5 U.S.C. § 801, *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, does not apply because this action is not a rule for purposes of 5 U.S.C. § 804(3).

Dated: September 13, 2013.

Janet G. McCabe,  
Acting Assistant Administrator,  
Office of Air and Radiation.

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